

The independent news provider for the global tissue business

TISSUE WORLD

DEC 2012 / JAN 2013

COUNTRY REPORT

Tissue rises above the pain in Spain

TECHNICAL THEME

Energy efficiencies continue to dominate the latest paper machine developments



TISSUE WORLD 2013

Show Preview and
Conference Programme

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Market Expertise

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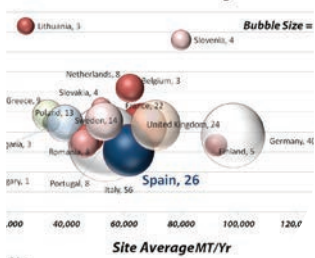
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Cover: Gaudi's Casa Batlló in Barcelona, Spain

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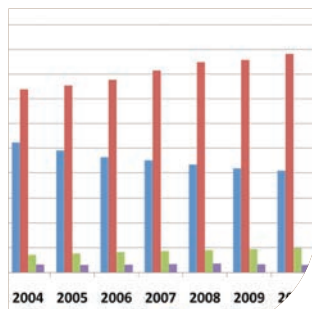
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As energy efficiencies and raw materials continue to dominate the headlines, TW asks paper machine suppliers for their technical projections



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TISSUE WORLD BARCELONA 2013: SHOW PREVIEW

In March 2013, the tissue industry will descend into Barcelona for the BIG ONE. Here, TW showcases the show's exhibitors and conference speakers

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GROWTH OUT OF THE GLOOM: HOW TISSUE IS SETTING THE PACE IN SPAIN

Recent developments in the Spanish tissue market have not followed the pattern one might expect given the unpromising economic backdrop. Accepted wisdom has it that when times are tough, consumers will be more thrifty in their spending, moving down market to maintain levels of product usage and to keep ever-demanding families happy with kitchen napkins, toilet rolls and face wipes.

On that basis, private labels should be having a relatively better time of it at the expense of premium products. This is not always the case, and the price war in supermarkets and across internet retailing has turned the traditional market trend on its head. This development has been good news for Spanish tissue consumers.

Throughout Spain's economic downturn its tissue market has adapted by turning to innovative and aggressive marketing, which has resulted in a flurry of unusual and niche products that are not only environmentally sound but also well priced. One example is tissue manufacturer LC Paper's 1ply product, which according to director general Joan Vila is "lower cost in terms of raw material, tissue making, converting and energy, but can still guarantee softness and quality".

Companies are also stepping up their jumbo roll and some finished product export initiatives in neighbouring France, Morocco and Portugal but also in South Africa.

TW also visited SCA's Valls site. Following its acquisition of

Georgia-Pacific's European tissue operations, it seems likely that there will be further changes to the Spanish tissue landscape.

Spain produces over 800,000mt/yr of T&T paper and most tissue mills are in the north east. It is the 3rd and 15th largest T&T producing nation in the EU/worldwide respectively. While people are spending less, tissue products recorded 2% value growth in 2012, helped largely by the introduction of new premium categories by many major manufacturers. Its €584m toilet paper category grew by 1% in value during 2012, with luxury toilet paper posting a recession-defying 1.2% rise in value growth. Private label accounts for the majority of the Spanish retail tissue market at 72% by value in 2012. However, outside of toilet paper, kitchen towels registered the strongest growth at 4% in value.

Spain's woes look set to continue with further austerity measures imposed by its indebted government, dismal job prospects and unemployment at near record levels. Yet for the moment tissue is not just riding out the storm, but equipping itself for post-austerity growth. There's a clear-sighted vision toward innovation, diversity and sustainability born out of a strong tradition. As one mill manager said – this is his third recession, and he's seen off them all.

As you can see we are innovating too. I hope you are enjoying our stylish re-design of Tissue World magazine.

TW BARCELONA 2013

This issue also previews Tissue World Barcelona 2013: the Big One. Included is the show preview that details all the world-leading companies that will be at Tissue World Barcelona 2013. Conference speakers and topics, which now include major retailers Lidl, Ahold and IKEA as well as WWF, are also included as well as the new Tissue World "Open House" Live Broadcast that provides visitors with the opportunity to 'virtually' visit a production plant. We look forward to seeing you there!

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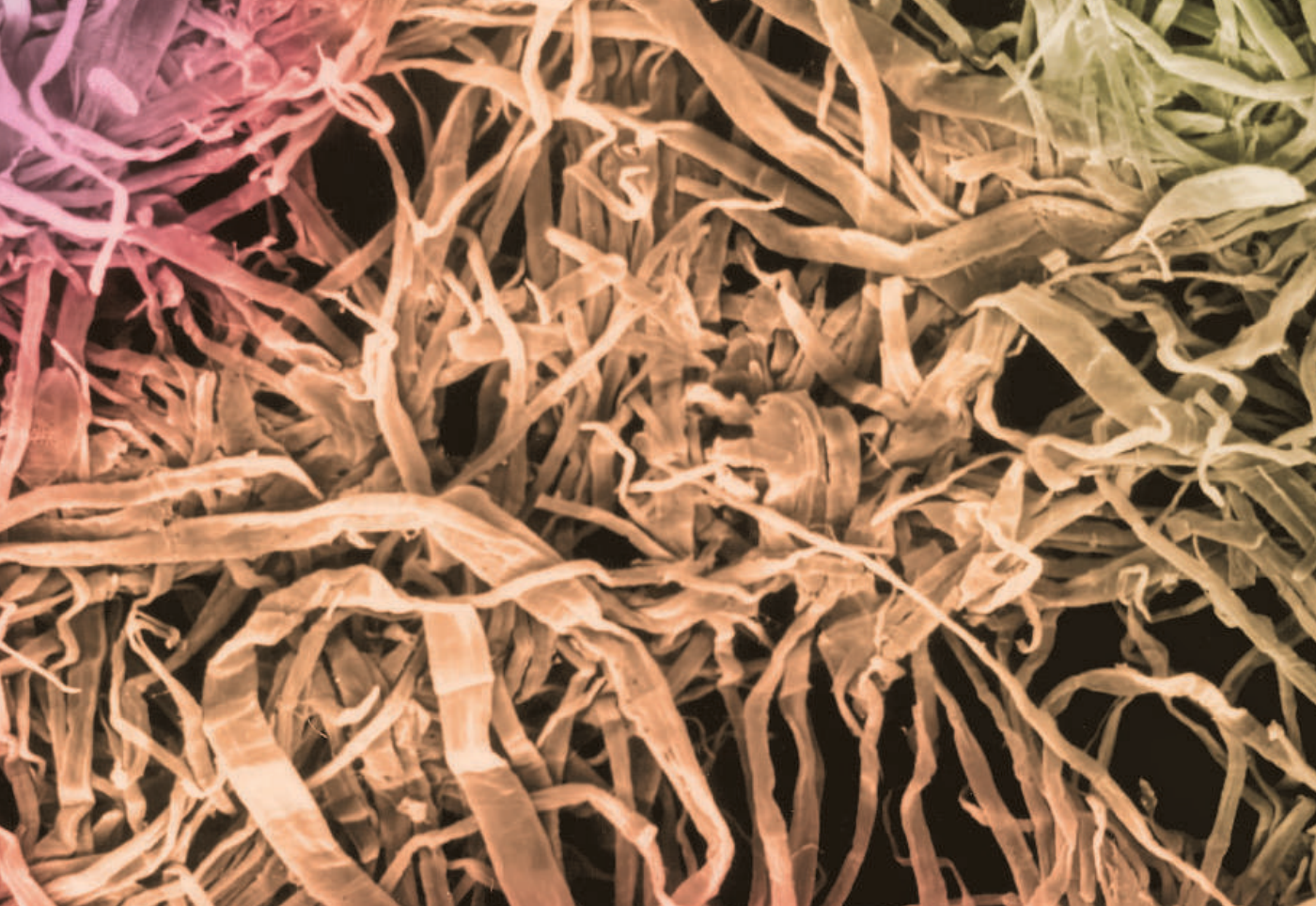
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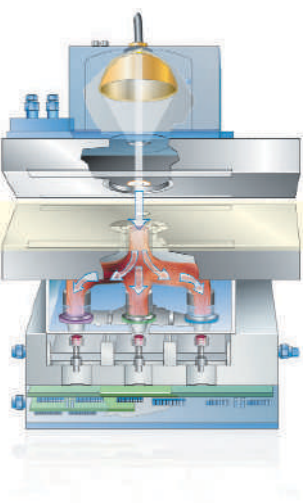
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HPIR-FW. See it from the tissue's point of view.



Successful tissue makers have learned that they must be nimble and responsive to meet growing global demand. Now, new compact tissue machines have made it possible for production to be located closer to that demand, which presents numerous profitability and sustainability challenges to the producer. ABB is ready to help with a tissue measurement solution without radiological isotopes and the regulations associated with them. Using a simple and proven design that delivers safe and reliable performance, HPIR-FW directly measures fiber weight and moisture in a single sensor, enabling tissue makers to control two of the most expensive costs in the process - fiber and energy. To find out more, contact your local ABB Account Manager and visit www.abb.com/pulpandpaper

Power and productivity
for a better world™



Innovation in fibre – possible avenues for differentiation and profitable growth

At Tissue World Asia 2012, Poyry's Pirkko Petäjä and Ho See Young spoke of opportunities to deal with increasing overcapacity in the Chinese tissue sector. With more competition, a producer has to differentiate itself to offer better pricing and ensure market share. Below, their key findings are summarised by TW.

Tissue use grows as a country's economic wealth and population increases and this is becoming increasingly evident in China where more and more people are requiring higher living standards. Globally, China is the strongest growing tissue market where changes from these drivers are the most influential. Some 53% from the total additional demand volume by 2025 is estimated to take place in Asia, with China alone accounting for over 40% of total growth. Additionally, market growth in China has been close to 9% per annum, and at 5.4m tonnes per annum it is today the third largest tissue market in the world after North America and Western Europe.

Almost all of the tissue producers in Asia have announced a significant number of new tissue projects. The majority

of players are local: China's main four national players are Hengan, APP, Vinda and C&S. Kimberly–Clark (K-C) is the only global group that has significant presence in Asia, but it only has a minor position in China. Additionally, SCA also has a partial ownership in Vinda.

Although capacity is being closed from the low-end sector of the market, overcapacity still prevails and this has turned China into a net exporter of tissue jumbo reels and finished products. Exports are now expected to reach a million tonnes in a couple of years. It has also created a need for Chinese tissue players to innovate and differentiate in order to stay competitive, offer a better pricing position and ensure their market share.



Create a niche: Pirkko Petäjä, principal at Pöyry Management Consulting

RAW MATERIAL INNOVATION – COST AND POTENTIAL MARGIN

Maybe there is a local and sustainable fibre resource that can be a basis for a successful marketing story? This potential is not yet being fully actualised by Chinese tissue producers. Innovation here can help create a local and integrated business model that can lead to a competitive advantage and even better margins.

“There is a potential for non-wood to become a sustainable fibre resource for tissue, but only with improved technology and environmental control in the mills.”

Wood pulp (BHKP and BSKP) is the main fibre in China taking up 60%, but non-wood pulp (straw, bagasse and especially bamboo) makes up 34%, and recycled fibre (RCF) accounts for just 7%. This unique fibre structure that uses non-wood instead of RCF is a marketing angle that has not been fully leveraged; the potential for non-wood to be developed as a differentiator could be a solution for Chinese tissue producers to enable relatively competitive costs and quality, whilst also acting as a sustainable fibre source.

Bamboo has relatively long fibres and makes a good strength component in a tissue sheet, almost as good as BSKP, and

so it could replace wood pulps such as eucalyptus and also Spruce. While being excellent in providing physical strength, bamboo pulp is, however, not particularly good in contributing to improving softness of the tissue sheet. However, relatively high quality bamboo should not be ruled out as part of the furnish and as a possible option to replace softwood which is typically more costly. This will have no impact on product price and so will only improve a company's margin potential.

Non-woods are a sustainable raw material resource: either residues (bagasse, straw) or from fast-growing plants (bamboo), and they can replace pulp from natural forests. However, the production process is less sustainable as there are environmental issues in production with silica removal, reuse of chemicals and the effluent control especially in old small mills is often lacking or flawed. Stricter environmental regulations have now been imposed on non-wood pulp mills in China and there is a minimum size threshold for existing and new mills to create a feasible scale that enables proper environmental control. This therefore doesn't rule out the potential for non-wood to become a sustainable fibre resource for tissue.

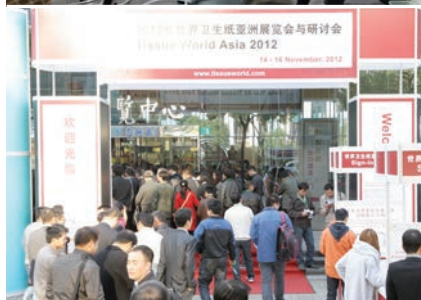
“Practically all major players plan capacity increases.”

Bamboo's relatively high cost is also restricting its usage. Fibre is the single most important cost item for tissue producers and it accounts for around 70% of JR costs and 40% of converted product costs. Generally, non-wood pulps tend to cost less than wood pulp, the exception of which is bamboo pulp which sometimes has prices close to or even higher than domestic hardwood pulp (however, lower than imported pulp). However, the JR price and the pulp price are very much in line. Non-woods, especially bamboo, could therefore be used as part of the furnish to replace softwood (which typically costs more than hardwood), and especially imported pulp, with no impact on the product's price.

The opportunities of non-wood pulp for the tissue industry is a marketing angle that has not fully leveraged in China. It is still very much a regional product that is supplied to a regional market, rather than a nationally available or exported product.

But the potential is there for it to be marketed as a Chinese specialty. Bamboo tissue is produced locally and is based on local raw materials, so there is less need of raw material imports and long overseas transports. It is natural and best to produce it in China where Bamboo is domestic plant and well established. This could make a very interesting niche product for the Chinese tissue market.

This article is based on Pöyry Management Consulting principal Pirkko Petäjä and vice president China operations Ho See Young's presentation at Tissue World Asia 2012.



TISSUE WORLD ASIA 2012: Shanghai the key speakers

New businesses to the fore as 131 companies exhibit

Tissue World Asia 2012 has attracted some 3,111 visitors during the course of the three-day event, with 2,577 local players joined by 534 international visitors.

Held in Shanghai between 14-16 November, a total of 131 companies exhibited at the show, taking up a total gross floor space of 6,000sqm.

New businesses were very much in evidence with some 18 new companies exhibiting in the China pavilion and a further 14 new companies represented in the Western pavilion.

Compared with 2010, conference speakers were up 29% to 22, with six local speakers joined by 16 international, and there was a 22% uplift in conference delegates to 97, of which 56 were local players.

Lütfi Aydin, paper group director at Turkish tissue producer Hayat Kimya, told TW: "Most of the machine producers in the tissue industry around China have taken a place in the exhibition and we found what we expected.

"The most interesting part of the event for us is to be made more aware of the many big and small sized Chinese companies. We also found some tailor-made machinery."

He added that the Chinese market is a key business priority as their prices "are quite competitive".

"If you compare machine efficiency and price, the Chinese companies have a priority for our projects in the future," he said.

Chris Chen, marketing manager at Xerium Technologies, Asia, said: "I saw that a lot of big players attended the show. In terms of technology, the information on paper machine clothing and roll was particularly useful.

"The Chinese and Asian market is a top priority for us as there is rapid growth there in terms of the tissue market."

Nicolas Le Pivert, FlexLink Techne's SBU tissue general manager, agreed that China and Asia were "a high priority" and that it was good to see companies at the show focusing on displaying their products and services.

He added: "I manage a global unit and we are starting in the Asia area in 2013. The show has been helpful to see how the area is running in order to define my business plan for 2013/2015."

Tissue World Asia is Asia's largest international show dedicated to the tissue sector.

Tissue World Barcelona - The Big One - update on page 8.

Numbers: China

Average annual growth in tissue consumption expected until 2021	8.4%
Total tissue consumption in tonnes during 2011	5.37m
APP's share of tissue capacity; the largest in the country	17.1%
Population growth per annum	0.5%
Tissue production output now exported	8%

Shanghai report with a summary of core points from

Changes and prospects for the tissue paper industry in China

By Madam Jiang Manxia, secretary general of CNHPA

"The continuous rapid expansion of the Chinese economy and the improvement of living standards has meant that the tissue paper markets have grown significantly, around 10% annually. In the past five years, we have also seen a dramatic change in the speed of the machines. In 2012, consumption increased to 12.7%.

"We are seeing softer products of higher quality, and areas of China such as the north are seeing increasing demand for coreless products. Some 8% of the total output is now exported around the world. There is a lot of opportunity to export gradually."

"We are seeing softer products of higher quality, and areas of China such as the north are seeing increasing demand for coreless products."

"However, it is very obvious that supply has exceeded demand. The industry is facing periodical overcapacity and restructure, and this has had relatively less impact on the leading brands and enterprises with self-supplied pulp, but greater impact on the new market entrants and middle and small size enterprises."



Madam Jiang Manxia, secretary general of CNHPA

The Chinese tissue market - full speed ahead or trouble coming?

By Esko Uutela, principal, tissue, RISI

"The Chinese tissue industry is still very fragmented but changing at breakneck speed. At the end of 2011, 220 tissue paper making mills with almost 2,000 tissue PMs and a capacity of 5.665m tonnes were identified. Growth is averaging 8.3% per annum and is expected to continue at 8.4% until 2021. Consumption is expected to reach levels of 12m tonnes in the next ten years. There is also a changing regional concentration in the country's development with an increasing focus on central and northeast China, which is seeing quicker growth.

"As tissue penetration increases, new consumers will start buying tissue products with improving retail systems. The pace of urbanisation especially in central China is also very important. When people move from rural to urban areas their hygienic habits also need to change, favouring tissue. We are seeing increasing product penetration and quality improvements and expect toweling to start to grow in the coastal strip zone. However, an explosion of new investments but also closures and project delays is likely to impact as of 2013.

"Prospects for small companies with older Chinese-made equipment, high number of employees and low average product quality are less promising - it is likely that industry restructuring will continue and many small producers will need to exit the business.

"Newcomers from other industries will need to create their own brands, establish distribution networks and understand the importance of marketing and rules of competition. This may be easier to those coming from other consumer products sectors rather than process industries, including other paper and board businesses."



Esko Uutela, principal, tissue, RISI

Retailers and Tissue Makers focus on Sustainability at Tissue World Conference in Barcelona

Best gathering of distinguished speakers ever at Tissue World

A world-class lineup of speakers, including numerous major global retailers, top tissue making companies and leading environmental groups, will be on the podium at the Tissue World 2013 Conference in Barcelona. The distinguished speakers will be addressing the provocative question: "Evolution or Revolution? The Next Steps in Sustainable Tissue Making", and taking an in-depth look at the sustainability practices of the tissue business across the entire supply chain from forests to customers and consumers.

Lidl of Germany, Ahold of the Netherlands and Ikea of Sweden are among the leading retailers that will have representatives on speakers programme and panel discussion that will also include Sofidel and SCA, as well as WWF. The presentations and discussions from this group will give attendees at the conference an incredibly deep and broad understanding of the sustainability

drivers in the tissue market today.

Tissue World 2013 will be an historic event. If you and your company have any concern whatsoever about the Environment, Sustainability, and the Tissue Business you won't want to miss this meeting. For everyone across the entire supply chain, including pulp supply, papermaking, converting, wrapping and packaging, transport and logistics, distribution, trading, retailing and purchasing, this is an absolute must attend event.

To be part of the conference, and to visit the world's largest tradeshow for the tissue business featuring the leading suppliers of equipment, machinery, spares, services and solutions, go to www.tissueworld.com and register today. The dates of the conference are 18–21 March 2013 in Barcelona, Spain.

Tissue industry key debate

Issue: Evolution or Revolution?

Best practice in sustainability across supply chain from forest to customers to consumers.

Concerns: pulp suppliers, papermakers, converters, wrapping and packaging, transport and logistics, distribution, trading, retailing and purchasing.

South Korea

SSANGYONG C&B BOOSTS CAPACITY WITH TOSCOTEC BUY



SsangYong C&B boost capacity with AHEAD 1.5S buy

South Korean producer SsangYong C&B has boosted its tissue capacity by 91tpd after it bought a Toscotec-supplied tissue machine.

The AHEAD 1.5S is a crescent former machine with a single-layer headbox, double press configuration, a Steel Yankee Dryer TT SYD-12FT and a Reel

section TT Reel-P.

It will be installed at the company's Jochiwon plant where it produces facial, bath, kitchen towels and incontinence products, and is expected to come on stream by the end of 2013.

The scope of supply includes a high efficiency gas-fired hood, steam and condensation system, a steam recovery boiler fed by hood exhaust air provided by Toscotec sister company Milltech.

A shaft puller for expandable shafts is also included in the supply.

The machine operating speed is 1,700mpm with a net web width of 2.7m.

SsangYong C&B was founded in 1980 and is owned by David Kim, while operating as a subsidiary of Monalisa Co.

The group owns three tissue plants: a tissue production and converting plant in Jochiwon, a tissue and converting plant in Jeonju, and a converting plant located in Daejeon. Its production capacity is 130,000tpy and it has seven tissue machines.

UNITED CONVERTING AND IKS FORM JOINT VENTURE



United Converting Americas will operate from IKS's plant in Florence, South Carolina

Italy's United Converting and American-based International Knife and Saw (IKS) have formed a joint venture to sell converting equipment throughout the Americas.

United Converting Americas will operate from IKS's plant in Florence,

South Carolina, and offer United Converting's full product portfolio of paper converting equipment and accessories to tissue towel and napkin converters.

The new company will provide technical sales and service backed by after-sale support including spare parts and customer driven product research and development.

United Converting Americas has appointed Murray Godwin, of IKS, as managing director.

He told TW: "In the tissue market

we're focusing on converters that manufacture industrial and Away-from-Home products.

"But that's not to say that we wouldn't recognise and pursue opportunities in the retail, bath and towel markets, which we will also do."

He added that the joint venture also extends to Italy, where IKS's products are sold and distributed to the European tissue market.

United Converting also has branches in the UK and Japan. It was founded in 2004 and produces high-quality machines and accessories for the paper converting industries.

IKS produces precision saws, blades, knives and other cutting tools for the paper converting industry.

ABB TARGETS TISSUE MARKET WITH HPIR-FW SENSOR LAUNCH



ABB Network Platform with New HPIR-FW Sensor

ABB has launched its High-Performance Infrared and Fibre Weight (HPIR-FW) sensor to help tissue manufacturers improve moisture and fibre weight measurements.

The sensor directly measures the most critical parameters of machine direction and cross direction control using a single sensor module, which allows tissue makers to have better control over their fibre and energy costs.

It measures fibre weight, web moisture and web temperature simultaneously with one infrared instrument, without the need for radiological isotopes.

Steven St. Jarre, global sales and marketing manager for ABB Quality Control Systems, said: "The HPIR-FW sensor helps tissue makers meet today's profitability and sustainability challenges because it gives them the ability to respond more quickly and flexibly to global customer demand."

LANGHAMMER SETS NEW STANDARDS WITH "THE WAVE"

Langhammer has expanded its product portfolio with "The Wave", a unique combination of conveyor and layer gripper.

It takes products from a conveyor lane and places them independently of configuration or product safely on a pallet.

Enrico Pes, managing director of

Langhammer, said: "I see a great advantage in the compact design of our new development because conventional systems require up to 50% more space."

He added that the product is collected by a split gripper apron while a four-sided compression aligns the layer formation on all four sides.

Typical clamp gripper systems apply pressure on the product layer.

Langhammer provides transport and palletising systems for the tissue and paper converting industries, and this product can be used with almost all products.

STRONG GROWTH HELPING TISSUE EXCEED NEWSPRINT CONSUMPTION



"We expect the 4% tissue growth rate to continue," Esko Uutela, Principal, tissue, RISI, speaking at Toscotec's 100 SYD event.

Global tissue growth will have exceeded newsprint consumption for the first time ever in 2012, according to Esko Uutela, principal, tissue, RISI.

This year will witness 1.3m tonnes of tissue volume growth which will bring tissue consumption close to 32m tonnes - a figure that will exceed global newsprint consumption and is "of great importance for the industry".

Speaking at Toscotec's 100 SYD event which celebrated the sale of the supplier's 100th Steel Yankee, Uutela said that in 2011 the world's tissue consumption stood at 30.5m tonnes. This consists of: 27.2% in North America, 20.9% in western Europe,

17.6% in China, 11% in Latin America, 6.1% in Japan, 5.6% in Far East Asia, 5.1% in eastern Europe, 3.3% in N&M East, 1.9% in Africa and 1.3% in Oceania.

The normal growth rate is back on track after a small break due to the recession in 2009, averaging 4.3% in 2011/12.

More and more of this growth is increasingly focused on emerging markets, with China and Latin America showing the best prospects, with 40% of global growth in China at 6m tonnes, followed by Latin America at 2.3m tonnes.

While the growth path of other paper

grades continues to decrease, Uutela said the outlook for the tissue business is "promising".

He said: "The future is bright and we expect the 4.3% growth rate to continue.

"A vast number of new world-class PMs are on order in China, with more planned. Currently it does look like too much capacity is coming on stream there in 2012/13.

"However, several projects are delayed and this will help avoid serious overcapacity."

He added that competition is intensive and that cost competitiveness is increasingly important and that more than 140 tissue Steel Yankee dryers have now been delivered or ordered.

Recent major deliveries to China and other Asian countries are the dominant feature. Based on committed orders until the end of September 2012, regional distribution of SYD sales for tissue between 2000-2014 found that some 34.4% were in China, 22.5% in Europe, 21.8% in Far East Asia, 14.8% in Latin America, 4.2% in Africa and 2.8% were in N&M East with 1.4% in Japan.

P&G LOOKS TO TRIM 5,700 JOBS IN 2013; TISSUE DIVISION NOT EXEMPT

Tissue giant Procter & Gamble has confirmed that the reduction of its headcount by 5,700 staff by the end of fiscal year 2013 relates to all of its businesses.

In its annual interim report, the company said it had taken "significant steps to accelerate cost savings and create a more cost-focused culture," in a move that includes a five-year, \$10bn cost savings initiative that was first announced in February 2012.

A spokeswoman for the company told TW that its tissue division will not be exempt from staff reductions.

She said: "The cost savings programme is a global announcement and relates to all of our businesses.

"We are still in the early stages of redesign and at this moment in time are not able to specify where the reductions will be made. The proposed reduction of 5,700 staff relates to non-manufacturing divisions."

Group net sales for the year increased 3% to \$83,680m compared with \$81,104m the same time a year earlier while operating income decreased 14% to \$13,292m.

In its interim statement, the company

said: "Demand for our products has a correlation to global macroeconomic factors... which remain dynamic.

"Our costs are subject to fluctuations, particularly due to changes in commodity prices, raw materials, labour costs, foreign exchange and interest rates.

"Therefore, our success is dependent, in part, on our continued ability to manage these fluctuations through pricing actions, cost savings projects, sourcing decisions and certain hedging transactions, as well as consistent productivity improvements."

Italy

TWO LUCCA AREA MILLS TO BE SOLD AND CONVERTING LINES MOVED OUT OF ITALY

German tissue giant WEPA has announced more cost-cutting measures.

In addition to the planned sale of two mills in Italy, the firm revealed plans to cut some 150 out of a total of 1,500 jobs at its five sites in Germany.

WEPA said it closed a framework agreement with the joint works council and the IG BCE trade union that provides for socially responsible job cuts. The firm mainly plans to resort to attrition, the non-renewal of fixed-term contracts, early retirements and mutually agreed terminations of work contracts. Moreover, WEPA's employees in Germany agreed to a reduction of their bonus pay check at the end of the year.

According to WEPA, the cost-cutting measures are due to the high costs and price pressure in the sanitary paper sector.

WEPA chief executive Martin Krenzel said: "As a producer of commodity products we need to use any

opportunity to streamline our business and reduce costs when rising prices for raw materials, energy and logistics cannot be passed on to the customer.

"It is our only chance to maintain our competitiveness and safeguard our long-term future as a family-owned business."

"It is our only chance to maintain our competitiveness and safeguard our long-term future."

Mills for grabs in Italy: WEPA revealed plans to part with two of the five tissue mills of its subsidiary WEPA Lucca in August. The sites in question, WEPA's Piano della Rocca and Fabbriche di Vallico mills in the Lucca area, produce 17,000tpy and 31,000tpy respectively.

Moreover, the firm plans to move two converting lines from its Salanetti converting facility to other production units outside of Italy. WEPA hopes to finalise the cost-cutting measures by the end of next year.

Pamplona sells WEPA share: As WEPA further revealed, it is no longer partly owned by the UK-based private equity firm Pamplona Capital Partners.

According to the tissue manufacturer, Pamplona sold its 32% share in WEPA to the firm Marsberger Kraftwerksgesellschaft (MKG) in August. The value of the deal was not revealed.

MKG is owned by Martin, Wolfgang and Joachim Krenzel, who also own the majority stake in WEPA. Thus the firm is back under full family-ownership.

Pamplona acquired its stake in WEPA in 2010. At the time, the firm revealed plans to invest some Euro 150m over the following 18 months.

Among the planned investment projects were the installation of a new tissue paper machine in Germany and the expansion of WEPA's hygiene products sites in Spain, France, Italy and Poland.

News from RISI (www.risiinfo.com)

OMET BOOSTS CAPACITY WITH ADDITIONAL FACILITY

Omet has boosted its capacity after it opened up a facility dedicated to the production of tissue converting machines.

The move is the first stage of the company's plan for its tissue division over the next few years.

The new facility based in Lecco, Italy, has been operational since October 2012 and consists of 1,450 square metres dedicated to the manufacturing sector and 550 square metres of office space.

Marco Calcagni, sales and marketing director, said: "The significant increase in orders for machinery in recent years has not been the only reason that led us to implement a further expansion of the production department of OMET Srl.



The company's new facility based in Lecco, Italy

"Our machines division for tissue needs room to develop new projects that we are pursuing with great conviction and confidence and that will be the leading industry's technology in the coming years.

"This is the first major change that will bring great advantages in terms

of production efficiency and capacity to meet the growing demands of our machines from all over the world."

The company has also installed photovoltaic panels on the roof of the plant, which fully cover the electricity needs of the business.

China

HENGAN TO BUILD EIGHT 60,000TPY TISSUE PMS IN CHINA

Hengan International intends to boost its tissue paper capacity in China to almost 1.4m tpy.

The firm is looking to build eight new 60,000tpy tissue machines at various sites over the next two years.

Metso Paper and Andritz have been signed up to supply the PMs, with each to provide four units.

The Metso machines will all be 5.6m wide and have operating speeds of 1,900m/min.

Two will be installed at Hengan's site in Weifang city, Shandong province, and the other two PMs will go to the firm's facility in Wuhu city, Anhui province.

According to the Finnish supplier, the first PM will start up by the end of 2013 at the Weifang mill. The other three units will come online afterwards although the specific timelines are currently unknown.

The Andritz machines will have a similar size. Two will be erected at a mill in

Chongqing municipality, and two at the Changde plant in Hunan province. All four PMs are expected to come online in 2014.

Hengan's total tissue paper capacity will reach 910,000tpy by the end of this year after a 60,000tpy Voith Paper PM starts up at the Wuhu mill in December.

The further eight new machines will raise the firm's capacity to 1.39m tpy when they are all online.

Tissue investment boom: China's economic growth has raised people's living standards greatly, boosting general consumption including demand for tissue products, over the past decade.

Many Chinese tissue-makers are expanding to try and grab more market share, whilst others are considering entering the sector.

Hengan has already started up five 60,000tpy tissue machines at its mills in China this year, whilst other major

producers such as C&S Paper and Vinda International Holdings are also installing new machines.

C&S plans to build a new site in Luoding city, Guangdong province, with two 60,000tpy Andritz PMs due to start up there by the end of 2013.

Vinda aims to raise its total capacity to 620,000tpy by the end of this year, up from 470,000tpy in 2011 and the firm will further boost its capacity to 1m tpy by 2015.

Meanwhile, paperboard giants such as Nine Dragons Paper (Holdings) and Lee & Man Paper Manufacturing are mulling over joining the tissue sector.

Nine Dragons is pondering building four 50,000tpy tissue machines, whilst last year Lee & Man submitted plans to erect three PMs with a combined tissue capacity of 200,000tpy for an environmental impact assessment.

News from RISI (www.risiinfo.com)

XIAMEN XINYANG PAPER "SETS NEW RECORD" WITH TISSUE LINE START-UP

Xiamen Xinyang Paper has set a new record in the commissioning, start-up and speed-up of its recently installed Metso-supplied tissue machine.

The Chinese manufacturer said the machine came on stream one week ahead of schedule on 10 September, and that nine days later after five days of continuous operation it reached the operating speed of 1,900m/min.

The machine has a width of 5.6m and a maximum operating speed of 2,000m/min, and will produce 60,000 tonnes a year of high-quality facial, toilet and towel grades.

Metso's delivery comprised a complete production line with stock preparation equipment and an Advantage DCT 200 HS tissue machine including an OptiFlo II TIS multi-layer headbox, a Metso

Yankee cylinder, an Advantage AirCap hood, an Advantage WetDust dust management system and an Advantage SoftReel reel.

The delivery also featured Metso's patented Advantage ViscoNip pressing technology and BlackBelt shoe press belt.

NANNING PHOENIX TO START UP 30,000TPY TISSUE PM IN CHINA

Nanning Phoenix plans to fire up a 30,000tpy tissue PM at its mill in Nanning city, Guangxi autonomous region in mid-November.

The PM, supplied by Andritz, has a trim width of 3.65m and a design speed of 2,000m/min. The installation has

almost been completed.

Andritz's delivery also included a stock preparation plant, a headbox, a hood and a Steel Yankee drying cylinder.

The mill currently operates 13 tissue PMs with a total capacity of around 45,000tpy.

Two are Kawano Zoki machines, and have a combined capacity of 30,000tpy. The others are domestically made PMs with a capacity totaling around 15,000tpy.

News from RISI (www.risiinfo.com)

YFY BECOMES A HOLDING COMPANY: TISSUE PMS COME ONLINE

Yuen Foong Yu Paper Manufacturing (YFY) has completed the merger of its fine paper business with fellow Taiwanese company, Chung Hwa Pulp, while transforming itself into a holding firm.

The merger boosted YFY's stake in Chung Hwa Pulp from 9% to 55%, whilst the latter has become Taiwan's largest fine paper producer, with a total capacity of around 600,000tpy.

The duo said that the link-up is expected to generate cost savings of up to NT\$400m annually, mainly from vertical pulp and paper integration between the two companies.

Chung Hwa Pulp is now supplying low-moisture slurry bleached hardwood kraft (BHK) pulp from its sole plant in

Hualien on the west coast of Taiwan to YFY's seven paper and board mills across the island. Such integration can cut energy costs significantly for both companies.

The Hualien mill runs a 285,000tpy BHK line and two paper machines manufacturing mainly uncoated fine paper, with a combined capacity of 150,000tpy.

New tissue PMs online in China: Across the Taiwan Strait, YFY has started commercial production on two identical tissue machines at its mill in Yangzhou city, Jiangsu province, China.

The PMP Group supplied the two 2.8m-wide crescent formers, PM5 and PM6. Each has a maximum speed of 1,600m/min and a capacity of

27,000tpy.

Their output will be converted into facial tissue, toilet rolls and kitchen towels at the facility and sold on the Chinese market.

YFY has also kicked off trial runs on a new straw pulp line which use enzymes instead of chemicals to process fibre at the Yangzhou facility.

A spokesman said the 66,000tpy bio-pulping line is being fine-tuned and is expected to start normal production in the next few months.

The straw pulp produced on the line will be used in slurry form to feed the mill's recycled containerboard machines.

News from RISI (www.risiinfo.com)

C&S ORDERS TMS WITH "WORLD'S LARGEST STEEL YANKEES"

Chinese tissue manufacturer C&S Paper Yunfu has ordered two tissue machines which supplier Andritz claims to have the "world's largest Steel Yankees".

The two PrimeLineST tissue machines are said to be the first of their kind in China and were designed specifically

to reduce drying costs, with the entire drying process using steam only.

They are scheduled for start up at the end of 2013 and they have a design speed of 1,900m/min and a width of 5.56m.

The Steel Yankees have a diameter of

18ft and a shell length of 6.2m, and the scope of supply also includes the complete stock preparation plant as well as automation and drive systems.

C&S Paper Yunfu is based in Luoding, Guangdong Province.

EMBOSSING WORLD INSTALLS EMBOSSING ROLLS FOR K-C



Embossing World has teamed up with Kimberly-Clark (K-C) to install new embossing rolls for the production of its pocket tissue production line. Based in Italy, the company developed the embossing rolls in pin-to-flat configuration and built-in perdurable steel. High quality materials have been used for the construction of the whole equipment. A spokeswoman for the company said: "What is unique about these rolls is their geometry, which has been modified in order to decrease deflection and enable higher stability. This means that there is constant ply adhesion."

Australia

AUSTRALIA PASSES ILLEGAL LOGGING BILL

The Australian government has passed the Illegal Logging Prohibition Bill 2012 that prohibits the importation and sale of timber products containing illegally logged timber.

It is now an offence to import illegally logged timber or to process timber harvested illegally in Australia, and the new law requires all importers of regulated timber products and processors of raw logs to comply.

Ross Hearne, general manager corporate services at tissue giant Kimberly-Clark, congratulated the federal government on the move, adding "it was a major milestone for

social responsibility".

He said: "Government has clearly listened to and acted on the concerns of stakeholders, including industry, regarding effective control of illegally harvested timber product imports into Australia.

"Lower cost illegally harvested timber product imports in Australia are the result of a lack of enforced governance in exporting countries.

"The Australian community rightly expects that the products they buy, particularly those from Australian manufacturers, will meet responsible standards of operation and governance.

This Bill will enforce a level playing field on less responsible companies."

Darragh Brennan, Australia-New Zealand sustainability and communications manager for Solaris Paper, an Australian-operated and managed affiliate of Indonesian-based producer Asia Pulp and Paper, said: "The Illegal Logging Bill shows the commitment the Australian government has to ensuring all pulp and paper products imported into the country abide by the highest standard - and we along with other paper and tissue producers applaud this focus."

France

MP HYGIENE IN EARLY START UP OF NEW TISSUE PM AT ANNONAY MILL IN FRANCE

The tissue converter MP Hygiene has ramped up production on the new 30,000tpy tissue machine at its greenfield mill in Annonay in southern France.

The PM was not scheduled to come on stream until Q1 2013, but the building and installation was completed earlier than expected, a company spokesperson said. Start up took place on 12 October.

The Toscotec-supplied unit is capable of producing 100tpd of tissue on average. Its design speed is 1,900m/min and it has a net web width of 2.8m.

The new factory has created 33 jobs.

MP Hygiene announced its plans to build the factory last year after having received a grant of €4.2m from a state re-industrialisation aid programme. The remaining funding has come from equity and loans, the company said.

The total cost of the project ended up at €28m, instead of the €19.2m first expected.

MP Hygiene converts tissue paper into wiping paper used in industry and



Members of the start-up team at MP Hygiene

food processing, as well as the medical and janitorial sectors, at factories in Annonay and St Rambert d'Albon.

It has previously bought the tissue paper it needed in Italy, but will now instead utilise some 2,200tpy of its own production.

Furthermore, it has established a joint venture with CGMP, a French producer

of paper table cloths and napkins, which will consume another 3,000tpy of the Annonay-made tissue.

The remaining capacity will be sold on the market to other converters.

News from RISI (www.risiinfo.com)

USA

WHITE MOUNTAIN TISSUE MAKES FIRST TISSUE REEL

Tissue producer White Mountain Tissue has had its first tissue reel supplied to the former Gorham Paper and Tissue site in Gorham, USA.

The ABK-supplied machine has a reel width of 2,300mm and a speed of 1,900m/min. The ABK Group has managed the project on a turnkey basis from headbox to winder.

The business has also worked with fellow ABK Group company ABK Italia, formerly Over Meccanica, which brought its technical knowledge, as well as MDS which helped design and engineer the Yankee hood and dust and mist removal system.



First log on the reel at White Mountain Tissue's Gorham site

Malaysia

NTPM OF MALAYSIA LOOKS TO MOVE INTO TISSUE PRODUCTION IN VIETNAM

Malaysia's NTPM Holdings is planning to build its first production facility in Vietnam, as part of a strategy to expand its capacity in regional markets with abundant labour and low costs.

The company agreed to lease a piece of land in Vietnam Singapore Industrial Park (VSIP) II, located in Binh Duong township, about 40km from Ho Chi Minh City, in southern Vietnam. The lease, valid until 30 November 2055, will cost \$4.95m and covers about 100,000m² of land.

The firm has now received an investment certificate from VSIP to establish a subsidiary, NTPM (Vietnam), which will manage the project. According to the certificate, the duration of the investment project is up to 19 March 2058.

In a filing to Bursa Malaysia, NTPM

Holdings explained it intends to begin making toilet paper and facial tissue from jumbo rolls at the site from 2014 and to start producing base paper from both virgin and recycled fibre-based pulp from 2015.

The total investment cost of the scheme will be almost \$19.1m, of which \$5m will come from the company itself via its subsidiary NTPM (International). The remainder will come from bank loans.

VSIP II is being developed by Becamex IDC Corporation, a Vietnamese state-owned enterprise in Binh Duong province, and a consortium of five companies from Singapore, comprising SembCorp Industries,

Ascendas Investments, United Overseas Land Investments, Mitsubishi Corporation Development Asia and KMP Vietnam Investment.

NTPM Holdings has a tissue mill in Penang, in peninsular Malaysia,

housing 16 machines with a total capacity of 90,000tpy. The plant uses a mixture of virgin fibre and recovered paper as furnish for tissue paper production.

The company bought a tissue mill for Ringgit 20 million from fellow Malaysian

firm Union Paper Industries in January this year. The facility, located in Bentong, Pahang province, has two machines with a combined capacity of 10,000tpy.

NTPM plans to boost its tissue paper capacity in Malaysia with the installation of a 10,000tpy machine, due to start up early next year, but it is not clear at which site this will be.

News from RISI (www.risiinfo.com)

Germany

K-C SELLS ITS REISHOLZ TISSUE MILL AND GERMAN ROLLED TISSUE BRANDS

Kimberly-Clark (K-C) has signed an agreement to sell its Reisholz tissue manufacturing mill and its German rolled tissue brands to private equity fund Palero Invest.

The sale is part of the tissue giant's global tissue restructuring plan announced in January 2011.

The company said that Palero intends to continue to operate the mill as a going concern. The transaction will be

completed in the first quarter of 2013.

The brands involved in the sale include Hakle® Dry Toilet Tissue, Dick&Durstig® and Servus®.

Kim Underhill, president, Kimberly-Clark Consumer Europe, said: "This is a strategic divestment and I believe selling Reisholz and the associated rolled bath tissue brands in Germany is the right decision for the future of the mill and people who work there."

Underhill added that Germany "remains a key market" for the business.

Kimberly-Clark will continue to use the Hakle® Moist brand name for its Moist Bath Tissue brand in Germany for a period of time, after which the product will switch to another brand name.

It will continue to be the owner of the Hakle® brand across both Dry Bath Tissue and Moist Bath Tissue in Austria and Switzerland.

Japan



Japanese airline ANA has re-introduced its sustainable green tea cocktail napkin. The range is made from 100% recycled tea leaves taken from beverage manufacturer Itoen's green tea product "Oi Ocha". The napkin is now a little greener and has a subtle scent of green tea.

North America

CASCADES TISSUE GROUP LAUNCHES ANTIBACTERIAL TOWEL

Towel and tissue producer Cascades Tissue Group has announced the U.S. launch of the "first of a kind" antibacterial towel.

The green-coloured Cascades Antibacterial Paper Towel "minimises hand contamination by killing 99.99% of harmful bacteria almost instantly,

unlike ordinary paper towels". It releases the active ingredient benzalkonium chloride when in contact with wet hands.

Suzanne Blanchet, chief executive of Cascades Tissue Group, said: "It's a first of a kind product that eliminates residual bacteria almost instantly. Now

everyone can help control the spread of bacteria."

The Antibacterial Paper Towel contains 100% recycled fibre and is made using five times less water than the North American paper industry average.

Sweden

SWEDISH TISSUE LOOKS TO CUT 18 JOBS

Sofidel subsidiary Swedish Tissue has started a process in which 18 staff are to be made redundant.

The move is part of cost-cutting measures at its plant in Kisa, Sweden.

A spokesman for the company told TW that the action that is underway

aims to strengthen the company's competitiveness.

He said: "The move is in order to make the company more capable of responding to the recession that is affecting many European countries and, in the medium term, better

equipped for the increasing challenges of the market."

The final number of staff to be made redundant will be announced following the completion of negotiation with trade unions.

SCA FINALISES TALKS ON REDUNDANCIES AT HYGIENE PRODUCTS HQ IN SWEDEN

SCA Hygiene Products has wrapped up negotiations with employee representatives regarding job cuts at its Swedish headquarters in Mölndal, Gothenburg, in the south of the country.

In spring, the firm said it might cut up to 94 jobs, mainly white-collar positions, at the site, but after discussions the

company has decided to only take out around half that number. The cuts will be achieved either through redundancies or various pension schemes.

Earlier, it was also possible that a few positions at the incontinence products manufacturing unit in nearby

Mölnlycke, Gothenburg, might also be affected, but this will not happen.

The headcount reduction is aimed at cutting costs and increasing efficiency and profitability at the company.

News from RISI (www.risiinfo.com)

Finland

METSÄ TISSUE COMPLETES STATUTORY NEGOTIATIONS IN ITS FINNISH UNITS; TO AXE 19 JOBS

Metsä Group has concluded statutory negotiations in its Finnish tissue and cooking paper business units making 19 staff redundant.

The negotiations were part of the company's on-going company-wide

organisational restructuring targeted to improve profitability.

Mika Joukio, Metsä Tissue's chief executive, said: "By restructuring and reorganising our operations we aim to secure our future competitiveness on

the growing tissue and cooking paper market."

The Finnish operations are based in Espoo and Mänttä.

TISSUE WORLD PROJECT SURVEY 2012: ADDITION

The project survey in the Oct/Nov 2012 issue of TW asked machinery suppliers about their present and future projects in 2012-2013. ABK Group has now supplied its project information, which is published below.

Company's	Country name	Mill	PM No.	NEW	Web width REBUILT	Max in mm Speed m/mn	Technical operating	Comments Parameter	Year
CIDC	Azerbaijan	Baku	PM1	New	2760	2000	110 TPD	Green field mill	2013+
Braswell Ltda	Brazil	S. Paolo	PM1	New	3450	1600	120 TPD	C2000 Crescent former	2013
Braswell Ltda	Brazil	S. Paolo	PM2	New	3600	1600	120 TPD	C2000 Crescent former	2013
MG Tec	Romania	Dej	PM1	New	2850	1600	85 TPD	Green field mill	2013
Eka Kagit	Turkey	Izmit	PM2	New	2850	1500	80 TPD	C1600 Crescent former including winder and auxiliaries	2013
White Mountain Tissue	USA	Gorham	PM6	New	2760	2000	100 TPD	C2000 Crescent former including winder and auxiliaries	2012
Mediterranean	Egypt	Alessandria	PM2	Rebuild	2760	1500	70 TPD	C2000 Crescent former	2013
State Co. for Paper Industry	Iraq	Bashra	PM5	Rebuild	2200	600		Revamping Capacity upgrade	2013

shortissues

Södra has increased the price of its softwood pulp price to USD 820 per tonne. The hike came into effect from 1 November 2012. In a statement, the company said the move was a result of "improved market balance". It was unavailable to comment further at this time.

SCA has said it is committed to achieving FSC certification on all its Tork AfH products made from fresh fibre in North America by 2014. Currently all Tork products in North America are made from either 100% recycled fibre or from fresh fibre sourced from suppliers with Chain of Custody certification.

Kimberly-Clark is to appoint Michael Hsu as president, North America Consumer Products. Hsu joins K-C from Kraft Foods and succeeds Robert Abernathy who announced his intent to retire after more than 30 years with the company.

Shandong Dongshun Group has signed up Kawano Zoki to supply five new 16,000tpy tissue machines for startup in 2013 and 2014. According to the Japanese supplier, the units will all be 2.76m wide and will have a design speed of 1,000m/min. Four are to be installed at Shandong Dongshun's mill at its headquarters in Taian city, Shandong province.

Ashland Water Technologies has increased the price of selected products within its portfolio of process and water treatment additives sold in North America by 15%. The price increase is being driven by higher raw material and other input costs. Guy West, vice president, North America, Ashland Water Technologies, said: "In light of the current cost environment, this action is necessary to enable us to continue providing industry-leading product support and value to our customers. We will continue to work in partnership with our customers to help mitigate these increases."

Rick Souza runs his own business as an interiors and architectural photographer. Originally from Belo Horizonte in Brazil, he has lived in London for many years and now lives on the riverbank of the Thames with his wife Mel and daughter Sophia. As a family, they prioritise quality in their tissue products, but are also keen on Buy-One-Get-One-Free (BOGOF) deals. Products with a funky design are also used for when guests come to visit.

Besides loo roll, other tissue products we use are paper napkins - my wife likes the different designs and colours but we usually use these only when we have guests - on a daily basis we usually use kitchen towel on the table, or to hold a sandwich.

We look for both price and quality when buying toilet paper. Quality toilet papers can be expensive, but no one likes to rub sandpaper on their bottoms! Until recently, when I made regular trips to a big cash and carry store, I used to get a very good deal on a good brand (Cushelle) - something like a BOGOF deal, so I would get 2 x 24 for £10.99 (+VAT). Now, at least temporarily, I haven't been going to this cash and carry lately, so I have been buying toilet paper from my local supermarket (ASDA), where I usually look for offers but won't go for the cheap stuff.

We look for quality in a loo roll which obviously has to do with the softness and thickness of the paper, but we also check the length of the roll (i.e. how many sheets) to see how much we are getting. We don't go so far as to look for certification stamps on the package but we always buy white paper as we hear coloured ones are not eco-friendly and that they release the paint, or coloured chemicals, in the water. If that is the case then I suppose it could also cause skin irritation. There are probably some eco-friendly and coloured toilet papers in the market now that are also harmless for your health, and if they

are not absurdly dear I would consider buying a roll or two of a stylish or funky design to use on occasions when we have guests, like we do with paper napkins.

When we travel abroad, I do usually notice and compare the difference in toilet paper quality. When I visit my home country - Brazil - I find the quality of toilet paper varies greatly, depending on where you are. At my family home, my mom says that despite the price she usually goes for quality stuff. If you go to a nice restaurant you're likely to get good quality toilet paper. But I guess this is true anywhere in the world. If you go to a public toilet or a scruffy pub, they will not offer a loo roll as good as a nice restaurant or hotel. But this is indeed something I unavoidably notice.

I have been to China and Southeast

Asia and have noticed the poor quality of toilet papers in the places we visited - and the quality of WC facilities in general.

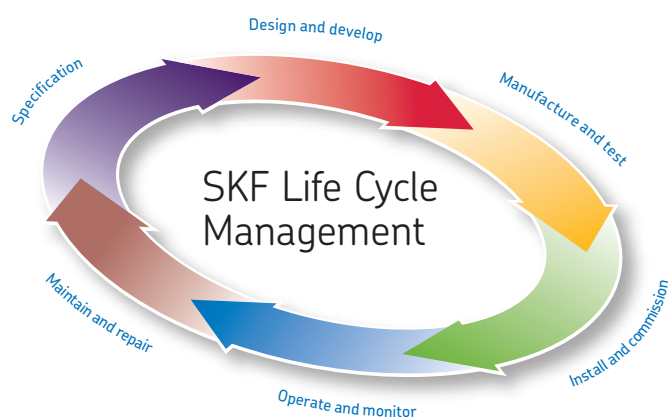
Having a child has of course increased our use of kitchen towels, especially when we weaned her off to solid food. At this stage a meal can be quite messy. A bib alone will not keep the baby clean. We have to wipe her face, hands and there's also the table and furniture around... and frequently ourselves!

We also usually have some Kleenex tissues at home. In fact, as we speak I currently have an annoying cold, so I stop every couple of minutes to clear my nose. Just like loo rolls, it is important to have soft tissues that won't irritate the skin around the nose, especially if we are using it on our daughter.





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Spain - competitive T&T base in a struggling economy

Spain is currently producing over 800 thousand MT/Yr of Towel and Tissue (T&T) paper. That makes Spain the third largest T&T producing nation in the European Union (EU) and 15th worldwide. Spain, as a country, was experiencing solid growth coming into the worldwide recession of the last three years. A third of the machines in Spain were started in the last ten years but this expansionary trend came to a grinding halt in the last three years. Spain's cost position suggests it may once again enjoy strong growth as the EU and Spain's economies improve.

Spain is home to more than 27 million people. Spain's economy is the 13th largest in the world, with a GDP that is fifth in Europe though substantially below Germany and France. GDP had been growing at above average rates for almost 15 years before entering a recession in the second quarter of 2008. GDP contracted by 3.7% in 2009 and by another 0.1% in 2010. Spain began to recover in 2011, making Spain the last major economy to emerge from the global recession.

Geographically, Spain's T&T mills are located in the Northeast areas approaching the Pyrenees and to a lesser extent along the Mediterranean Sea (Map 1). The country ranks third among the 19 T&T producers in the EU (Figure 1) and in the number of operating machines, behind Italy and Germany (Figure 2). T&T machines in the EU vary from narrow two-metre

machines to six-metres. The machines in Spain are typical in term of trim range for the region, with the average being 3.5 metres (Figure 3). Mill production in Spain is, on average, also similar to the remaining mills in the EU at less than 60,000 MT/Yr while the technical age of Spain's machines is lower than average at 15 years (Figure 4). Fibre mix in Spain's mills is heavily weighted to market virgin pulp as is the case with several other major producing countries in the EU (Figure 5). Recycled fibre is present in most countries, but not in heavy use by major producers. Integrated recycled fibre does provide some smaller producing countries an advantage over the purchased fibre consumed by larger producing countries. Spain, in turn, holds a slight cost advantage over other large producers attributable to lower labour costs (Figure 6).

Spain's T&T machine production rates range from the very smallest (producing less than 10,000 MT/Yr) to the area's largest producing more than 60,000 MT/Yr (Figure 7). Machine trims range from a narrow two metres to a regionally

typical five metres in width (Figure 8). Machine speeds are fairly well distributed with about an equal number of machines in the low end of 500-1,000 mpm as in the high end of 2,000-2,500 mpm (Figure 9). On the international scale, Spain's machines tend to mirror the EU average capacity and average ages (Figure 10). A noteworthy observation is that Spain's T&T business is more internationally owned than is typical with nearly half owned by companies based outside of Spain (Figure 11).

The source for market data and analysis in this article is FisherSolve™. Data tables behind Figures 1 - 11 can be obtained from Fisher International. E-mail requests to info@fisher.com.

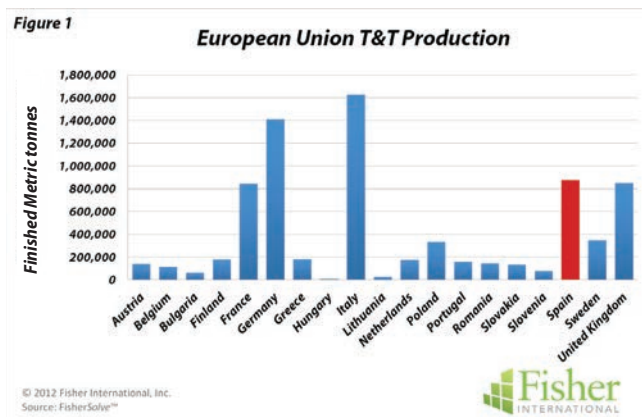


Figure 1 Distribution of T&T production in the European Union.

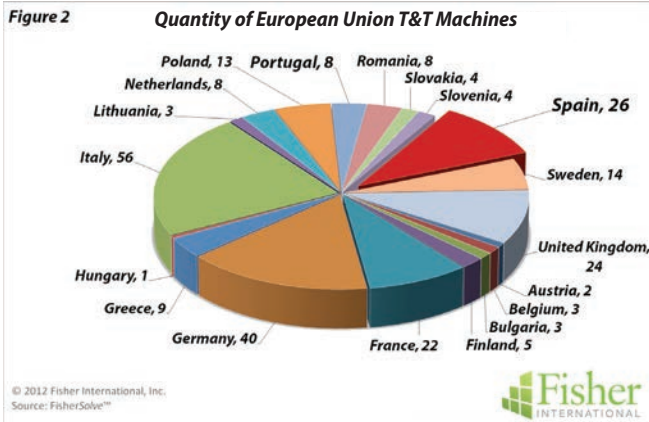


Figure 2 Distribution of T&T paper machines in the European Union.

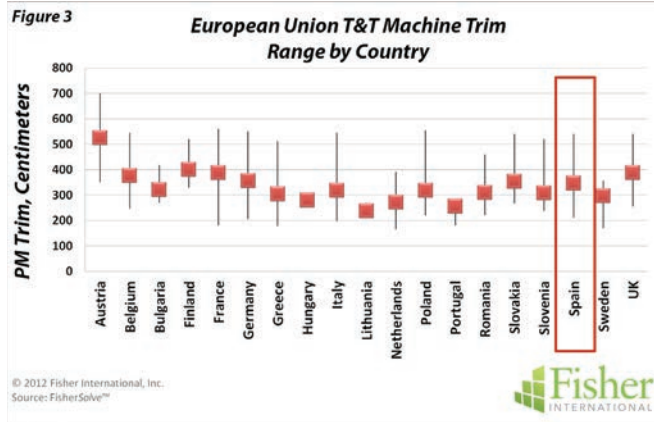


Figure 3 Distribution of T&T paper machine trims in the European Union.

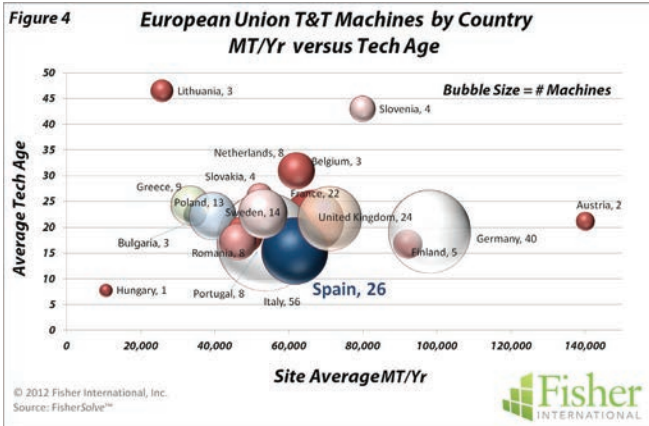


Figure 4 Technical age and production volume comparisons for European Union T&T paper machines.

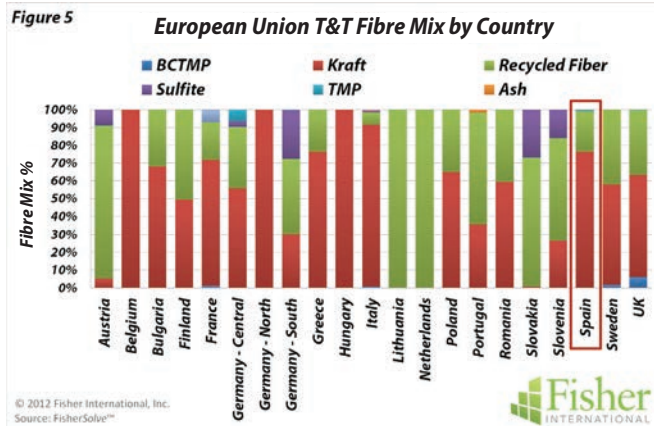


Figure 5 Fibre mix comparison for European Union T&T producing countries.

Map 1

Spain's Operating T&T Mill Locations



Map 1 T&T operating mill locations in Spain.

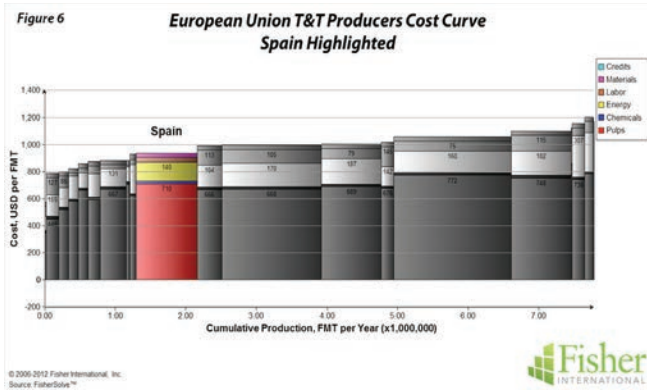


Figure 6 European Union country level cost curve for T&T production with Spain highlighted.

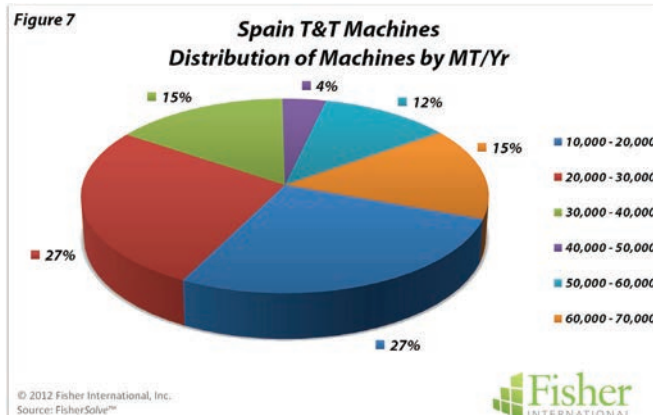


Figure 7 Distribution of Spain's T&T paper machines by production rate.

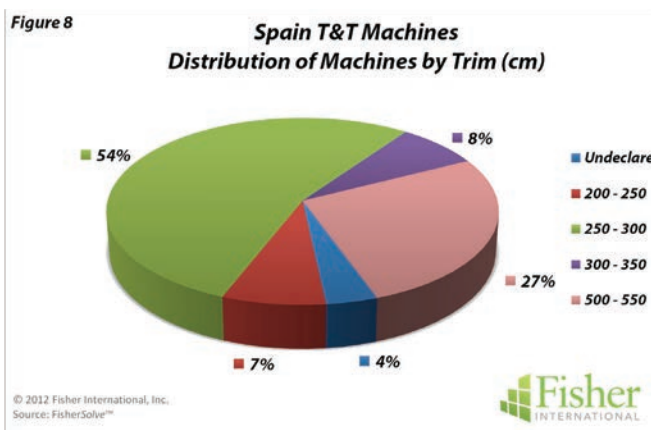


Figure 8 Distribution of Spain's T&T paper machines by trim class.

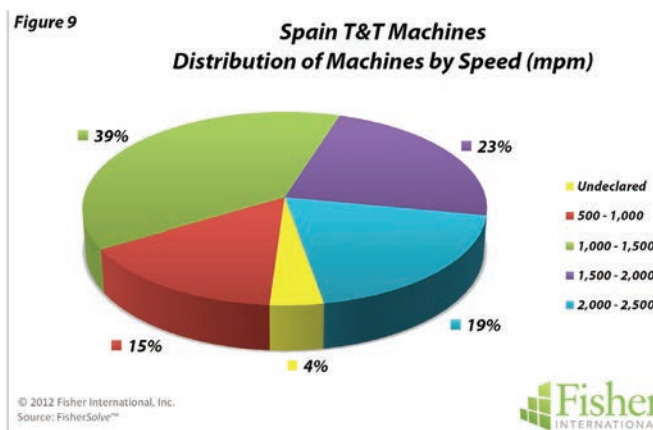


Figure 9 Distribution of Spain's T&T paper machines by speed class.

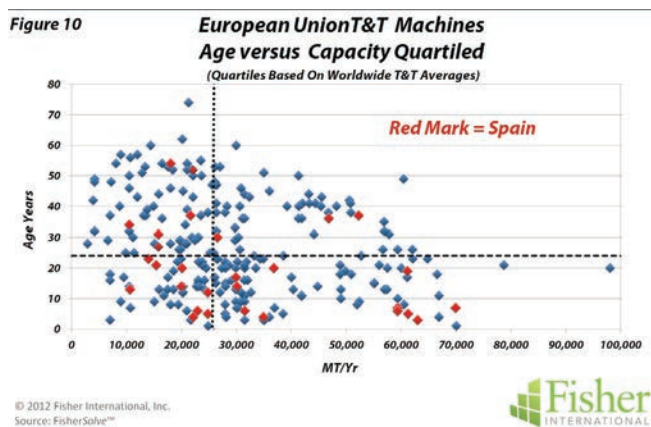


Figure 10 Dispersion of European Union T&T paper machines against worldwide average production and age.

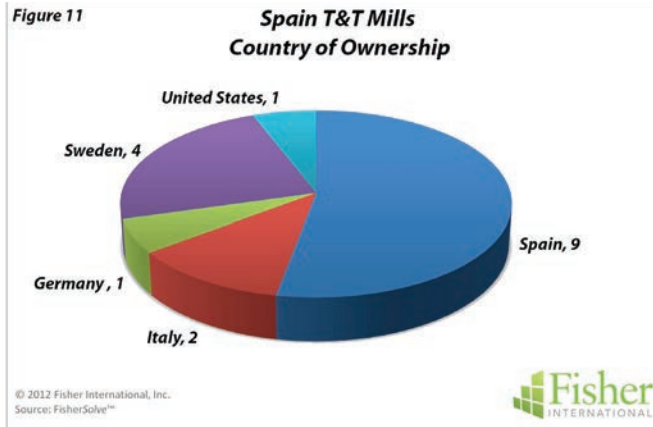


Figure 11 Distribution of Spain's mills by country of corporation headquarters.

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Spanish tissue products throw up a few surprises

In a year during which a double-dip recession and some of Europe's highest unemployment rates moved Spain to the frontline of the eurozone crisis, tissue products proved – perhaps surprisingly – resilient.

As a commodity product distinctly lacking in glamour, tissue products are often among the first to suffer when consumer incomes fall, as seen in markets as far apart as Japan and Greece in the post-Lehmann shock era. At the start of 2012, anyone suggesting that private label products would gain share in Spain in 2012, while branded products would be the ones to suffer would have got short odds. Most would also have agreed on the likelihood of downtrading with mid-range products taking the place of luxury tissue on cash-strapped Spanish consumers' shopping lists, and some consumers moving out of the category all together.

GEORGIA-PACIFIC EXITS AS PRIVATE LABEL DOMINATES

With private label accounting for the vast majority of the Spanish retail tissue market (72% by value in 2012) and the economy worsening on what has seemed like a daily basis, major players could also have been forgiven for thinking tissue products were a losing battle – and evidently one did. At the end of 2011, Georgia-Pacific exited the European tissue market, with SCA acquiring its portfolio and a 7% share of the Spanish market as a result. However, the Spanish tissue market has delivered some surprises in 2012 and

the major manufacturers that chose to hunker down in difficult conditions have at last some reason for cheer.

Despite the woeful wider economic circumstances, tissue products registered 2% value growth in 2012, a significant achievement given the circumstances. Faced with a do or die situation, major manufacturers shifted strategy somewhat surprisingly, choosing to develop new premium categories and in doing so managed to create growth out of the gloom.

"Despite the woeful wider economic circumstances, tissue products registered 2% value growth in 2012."

LUXURY LEADS IN TOILET PAPER

Toilet paper, Spain's largest tissue product category, is a prime example of how premium branded products have driven category growth during 2012. The €584m toilet paper category grew by 1% in value during 2012, and it was luxury toilet paper driving this growth, registering 1.2% value growth. In contrast, and perhaps against expectation, economy toilet paper registered a decline in terms of both volume and value. In the context of double-digit growth in Asian markets, 1% growth pales into insignificance; however, given that Spain's economic problems have caused FMCG in general to decline (for example the soft drinks

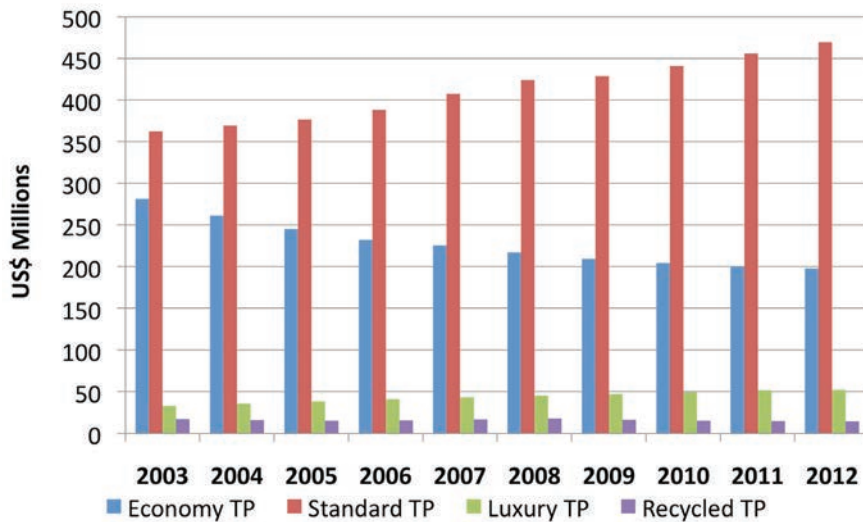
market fell in value by an annual average of 5% between 2008 and 2011), toilet paper can be considered to have performed well.

Despite the proliferation of private label products in the category, and the difficult economic conditions, Kimberly-Clark and Industrie Cartarie Tronchetti launched new premium products under their Scottex and Foxy labels. This bold investment in luxury products paid off and drove growth in the category. Two- and three-ply papers, as well as softer paper with added cotton, proved most in demand.

DISCOUNTING BOOSTS PREMIUM PRODUCTS

Although getting consumers to opt for luxury toilet paper in difficult economic circumstances may on the surface look like something of a challenge, in truth the wider effects of the recession served to drive consumers towards premiumisation.

Owing to the difficult trading environment, retailers instigated price wars, driving down the average price of many premium positioned products. As a result, many could be bought for roughly the same price as private label and economy brands. The narrowing price differential was enough to convince consumers to trade up. On top of low prices, many supermarkets increased their marketing efforts with branded products, as profitability became the watchword and retailers looked for the increased margins they bring. It is fair to say that premium



products at a low price and prime shelf positioning pretty much sell themselves.

The proliferation of premium products at bargain prices has served to stifle the growth of private label at a time when many would expect them to have the upper hand. Looking ahead, while economic difficulties remain, private label is expected to decrease in share as branded products dictate the play. As economic conditions eventually stabilise and prices rise, premium products should still hold the upper hand until private label manufacturers catch up in terms of innovation. At this point private label is likely to see a resurgence and the scrap for share will once again begin in earnest.

INVESTMENT PAYS OFF IN WET TOILET PAPER

Aside from the premiumisation of toilet paper, innovation in wet toilet paper also helped drive sales. Accompanied by heavy promotion and a quirky “Culitos Besables” – translated as “kissable bottoms” – campaign, Kimberly-Clark launched wet toilet paper under its Scottex label in 2012.

This promotion boosted consumer awareness, especially amongst young consumers and women, and drove value and volume growth, taking the product to 5% of the total toilet paper category. In particular, as many public institutions such as universities

reduced their supplies of toilet paper to cut down on expenditure, the product proved popular with younger consumers owing to its portable nature.

Looking ahead, wet toilet paper certainly offers possibilities for growth as the Spanish economy potentially returns to better health, pulling more manufacturers into the category, particularly as evidence from high penetration markets such as Germany and Austria show it is unlikely to cannibalise sales of dry toilet paper significantly.

However, there are challenges to expansion. In particular, manufacturers will need to invest further in educating consumers on the product's use and, in particular, focusing on how wet toilet paper can be of benefit given that many Spanish people already use a bidet. Innovations in packaging, especially if consumers continue to carry wet toilet paper with them, will also be of prime importance.

KITCHEN TOWELS TOP VALUE GROWTH

Outside of toilet paper, kitchen towels – again perhaps unexpectedly – turned in a standout performance during 2012, registering the strongest growth of all tissue products, at 4% in value.

Global health scares such as H1N1 live on in the mind of consumers, and various health awareness campaigns have heightened Spanish consumers' concerns over hygiene, especially

in the kitchen. As a result, many consumers now prefer to use kitchen roll instead of the more traditional cloths, preferring to spend a little more on a product that reduces the threat of spreading germs.

Looking ahead, hygiene is expected to continue to remain high on the agenda in Spain, and kitchen towels are likely to grow in popularity as a result, with the category's relatively low penetration also allowing further room for growth. While kitchen towels have seen their popularity rise, this has been at the expense of impregnated wet wipes, as wipes' higher price positioning combined with their throwaway nature made them more difficult to justify for many households. Although consumers are prepared to spend to safeguard their health, there is a limit to the extent of this.

Kitchen towels could well be where new arrival SCA makes a concerted effort during 2013. It is the one category where its acquisition of Georgia-Pacific has given it the edge over Kimberly-Clark. SCA already had a small presence with its Marpel and Dovay brands, but has now acquired the Colghar brand, which leads the market with 13% value share. The manufacturer has plenty of experience in kitchen towels and will almost certainly be increasing its activity to drive and capitalise on the growth forecast in the category.

THERE'S LIFE LEFT IN TISSUE PRODUCTS

While kitchen towels and wet toilet paper would seem to be the products set for dynamic growth next year in the Spanish tissue market, even a commodity category such as tissue can bring some surprises, as 2012 has proven. With the New Year looming and no end to the country's financial turmoil in sight, Spain's consumers are unlikely to have any extra money to spend in the year ahead, but as 2012 has illustrated all too plainly, even when the economy appears dead in the water, there's still life in an old dog, such as tissue products.

Almost 255 years in operation under 10 generations of the family, Gomà-Camps tells TW how it draws on its history in order to stay one step ahead of the game

During the steep and winding approach to Gomà-Camps's tissue and converting plant in La Riba, Tarragona, it's made obvious just how integral a part of the local community the company is. Built into the side of a steep valley that's located on the edge of the picturesque Prades mountain range and surrounded by family homes, the company has been a significant employer of local people since its establishment in 1758. The 10th generation is now running the business and the 11th generation is on its way.

TW is greeted by two generations of the family - paper mill manager Jordi Gomà-Camps Llorens, his cousin chief executive Maties Gomà-Camps, and Gomà-Camps Llorens's son production manager Jordi Gomà-Camps Travé. Walking around the site, you get a feel for both its history and how it has adapted to the times. Still independent, the company diversified into tissue when it saw a missed opportunity in the marketplace in 1964. It now produces a range of products primarily for the Away from Home (AfH) market,

including domestic and industrial toilet tissue, handtowel tissue and paper hand towels. There are two tissue machines, one 1991 EscherWyss TiscoFormer successfully transformed into Crescent Former by Toscotec in 2006 producing 100% virgin cellulose, and another Crescent Former by Andritz from 1998 producing 100% recycled tissue within the highest quality and sustainability standards, thanks to the state of the art stock preparation line from Kadant Lamort. The integrated plant has a substantial



Tradition with an eye to the future: Chief executive Maties Gomà-Camps, left, his cousin paper mill manager Jordi Gomà-Camps Llorens, and Gomà-Camps Llorens' son production manager Jordi Gomà-Camps Travé.

20,000 m2 converting area located down the hill. The company also has other production sites in Portugal and another in Spain jointly-owned with WEPA serving the southern European consumer market. Sales offices are also located in France and Angola.

Such a long-standing company is unique in the Spanish tissue market and also in the country at large; Gomà-Camps is the third oldest-owned business throughout Spain.

The Spanish tissue industry is full of big multi-national players as well as a strong group of independents. It produces 800,000tpy and is the third largest in T&T producing nations in the EU. Most tissue mills are located in the north-eastern Catalan area of Spain; areas of which have generally been slightly less impacted by the economic downturn. Competition is fierce, and Gomà-Camps' aim is to distinguish itself by investing in its main niche - recycled paper. Gomà-Camps Travé says: "The "leitmotiv" of the company is green thinking and working towards cost effective and sustainable processes with low carbon footprints. Projects have to make ecological and economical sense. We expect demand for recycled products to grow. Throughout Spain, there's a lot of variety in the markets – in northern Spain, it is similar to the French market

where there's much more demand for ecological brands. French consumers are more sensitive to ecological priorities. It's common sense. We hope the environmental conscience will come to more people here. But at the moment, the rest of Spain is focusing on price, price and price throughout the whole supply chain because of the economic conditions."

As the first Spanish tissue manufacturer to gain Ecolabel certification, it's now certified to a host of sustainable standards including PEFC, ISO 14001 and quality management system ISO 9001:2000. "We can be more competitive than the global players when talking about recycled paper production" ... "We've bet quite significantly on recycling and we've got the ability to distinguish ourselves and use it to our advantage." The company's recycling process uses no chemicals such as chlorine or optical whiteners that are harmful to the environment. The factory has a full effluent treatment plant with both physicochemical and biological steps. Water is more and more reused and the mill is prepared for further recycling stages after installing in 2011 the new membrane bioreactor in the biological water treatment plant. With the same philosophy the sludge residue is re-used in other processes outside the

factory.

The business produces high-end products, and Gomà-Camps Travé adds that "quality is the main goal". "We also focus on the low end, but we are increasingly looking to high end as that will bring growth and profit. We need to focus on quality, but also on cost reduction, achieving both via process efficiencies continuous improvement, new embossing techniques and converting optimisation."

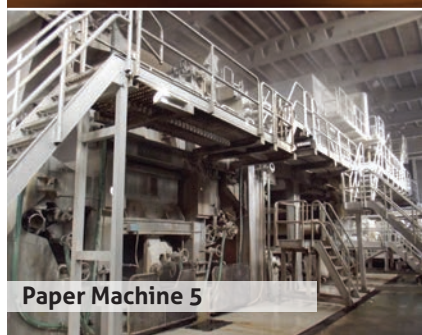
The Spanish AfH Gomà-Camps market share has seen an increase of between 10-12% during the past few years despite the recession. However, due to the economic conditions, the market is tougher and it is even more important to focus on the client, that's why specific product lines have been launched for France and Spain. "The French are asking for a different type of product to adapt their market restrictions," he says. "For example, the French consumer market is willing to put more recycled products onto the market than in Spain, and in France there is higher acceptance for low basis weight, high content products while in Spain for certain markets it's the other way around. Also the market is diminishing and we ought to be different, so we are constantly challenging ourselves on



The steep approach to Gomà-Camps's La Riba plant in Tarragona



Product Range



Paper Machine 5



2012 Hand Towel Machine



Toilet paper converting

quality and innovation."

Gomà-Camps also has its sights firmly set on export opportunities. It's seen growth in its external markets, an area that it wants to continue to expand, and it now exports 20% of its finished products to Morocco and Angola as well as Portugal and France. "We're looking to export more and more as there is a lot of growth for our products abroad. It will continue to make up a large part of our market strategy. Much of the market is shrinking here, there is more offer than demand. So we can avoid this overcapacity by going abroad where we are less dependent on this."

The north-eastern area of Spain has avoided some of the downturn, according to Maties Gomà-Camps. "This area of Spain is fairly affluent, as well as in northern Spain and Madrid. So while there are still problems of unemployment there, in many areas people are still spending on luxury products." What has impacted the local tissue market is waste material availability. "For the recycled product, it's all about availability. But this is largely affected by the number of printed products going to waste, which has been impacted on by the economic crisis."

As for raw material and energy costs, Gomà-Camps Llorens says it's difficult to pass on any price hikes, and so the business ends up absorbing the costs. "20% of our costs are on energy so we are working incessantly at being more competitive. We can help combat that by going into a sector of the market that isn't very large but one that also isn't suffering from the recession, that's our game plan, to try to position certain high end products into the market, such as GCClass table products, which is also produced in-house, included printing, or Xtrasec super soft and extra absorbent hand towels."

In the last five years Gomà-Camps has invested over €23m to renovate converting machinery, improve its wastewater treatment system and purchase new land. "Our history and experience is very unusual, and it gives

us a unique position in the market. It's very important that we come across as a family business. We stay close to our clients, serving professionals professionally, it's like a partnership. We are trying to be dynamic and be profitable, we are adapting quickly to the needs of a market that is changing rapidly. We try to be the promoters of the product, it's where we can be competitive."

TIMELINE

1758

Established. Manufacturing of deckle-edged paper for official documents.

1850-1914

Manufacturing of cigarette paper.

1914-1950

Manufacture of brown paper and thin wrapping papers.

1950s

Installation of PM3 for the production of single-ply smooth and crinkle toilet paper.

1960/70s

PM4 came online, manufacture of tissue paper and the commercialisation of 2-ply toilet paper, paper napkins and tissues.

1990s

Biological waste water treatment plant

High-performance tissue machine. Sincro toilet paper line enables the production of a laminated micro-embossed sized paper that offers greater softness.

Established Gomà-Camps France and Gomà-Camps Portugal.

ISO 9002 quality certification. Biological waste water treatment plant.

ISO 14001 quality certification

2000s

40x40 napkin line and extension of the printing production capacity. Updating of Machine 5: Softer Tissue. Agreement between WEPA and Gomà-Camps to set up a new company aimed at the mass market of southern Europe. New Jumbo Industrial Line.

2008

250th Anniversary celebrations. Obtained European Ecological Label.



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After the acquisition of Georgia-Pacific's tissue business in Europe strengthened SCA in Spain, TW visits the company's Valls plant to find out what's next on the horizon



"We strive to cater for the expected level of strength and softness, so the question is about the quality/cost relationship. Our strategy is to offer the best compromise between both."

Toni Mata site manager Valls

When TW visits SCA's Valls plant to meet site manager Toni Mata, the dust from the company's acquisition of Georgia-Pacific's (G-P) European tissue business is still settling. G-P exited the European tissue market at the end of 2011 with SCA completing the acquisition of its portfolio, including its Spanish-based Allo, Canary Island, Sant Joan Despí and Carmona sites, on 19 July 2012. The move gave SCA an extra share of the Spanish market, making its total market presence almost a third. Spain is already SCA's seventh largest market in terms of sales, and over the

coming months the acquisition will undoubtedly change the face of its tissue industry.

The impressive Valls site is a key player for SCA in Spain. An hour and a half's drive south-west of Barcelona, its presence is felt as soon as you leave the picturesque streets of the Roman town of Tarragona. It is set by itself on the outskirts of the town and the 100,000sqm building looms over you.

It was established in 1951 as a family business and acquired by SCA in 1998 when the business identified potential in the Spanish tissue market. "We saw a gap in the market for consumer tissue so we've concentrated on expanding here ever since," Mata says. "It's a strategic site that has followed the evolution of the market and seen us move into the Away-from-Home (AfH) sector."

In addition to the G-P sites, the company's acquisition activity has also been strong over the years. In 2006 it acquired tissue converting company Mapacasa on the Canary Islands, and in 2007 it expanded its tissue converting capacity in Valls.

"AfH is going to be very interesting in the long-term," Mata says. "Of course at the moment the sector is very much impacted by the economic downturn, but we are performing better than average. There is low growth generally in the Spanish AfH market nevertheless SCA is having a positive development." As for the consumer sector, he says the company has a very strong relationship with its partners, which include heavyweight clients such as Mercadona, Eroski and some international clients such as Aldi. SCA is an inter-supplier of Mercadona and the exclusive supplier of Eroski. "Volumes of consumer tissue are by far the highest in the Valls



Valls Mill



Production lines at the company's Valls site

SCA factory. We have and continue to see good evolution of volumes," he adds. "The situation of tissue products has been complicated because of the increase in VAT in Spain. It's meant that in September there was a lot of stagnation, but the tissue market here is still growing, although recently with slightly lower momentum."

He says the drivers during the economic downturn are cost and quality. "It's all about cost now and we have definitely seen



One of the company's paper machines

an increase in demand for quality, despite the recession. We strive to cater for the expected level of strength and softness, so the question is about the quality/cost relationship. Our strategy is to offer the best compromise between both."

During 2010, the Spanish tissue market as with many markets experienced increases in raw material prices such as energy and pulp. "It's more or less stable now, with small variations," Mata says.

Mata adds: "We are aiming to grow with our customers by constantly increasing our engagement and collaboration with them, and providing a product portfolio which answers the increasing quality demands of our consumers."

Mata adds: "We are aiming to grow with our customers by constantly increasing our engagement and collaboration with them, and providing a product portfolio which answers the increasing quality demands of our consumers."

In July 2012, SCA closed the acquisition of Georgia-Pacific's European tissue business. Mata says the integration is a very important step towards becoming a leading global hygiene and forest products company. "The acquisition represents a very good strategic fit as it strengthens our product offering and broadens our geographical reach. Integrating the former GP business into ours is the top priority for all of us at the

moment. This is why we will take the time required to do so in the best way. SCA is constantly looking into further developing our products and services in our field. And despite the economic downturn, sustainability continues to be a priority for us and our consumers. People here want to be environmentally sound."

Within SCA, Mata says the company is "proud to continuously improve our practices and increase our efficiency. And this is something our customers and the environment can definitely benefit from."

SCA AND SUSTAINABILITY IN 2012

Named one of the world's most ethical companies by the Ethisphere Institute, USA

Included in Dow Jones Sustainability Index

Scored highest in the tissue and container board categories in WWF's Environmental Paper Evaluation

Listed on the FTSE4Good global sustainability index since 2001

Included in the Carbon Disclosure Leadership Index

A signatory of the UN Global Compact

A member of World Business Council for Sustainable Development

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Tissue World Americas 2014

19-21 March 2014
Miami Beach
Convention Centre
Miami Beach, Florida, USA



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A large white paper roll is being processed in a factory. The roll is suspended by a yellow crane and is being cut by a red machine. The background shows the industrial structure of the mill.

Green ambition, niche products and export potential hold the key to not just surviving but thriving through Spain's economic crisis at LC Paper.

"You don't often see a mill with a philosophy - in 2020 there will be far more consumers than raw materials to supply them so we are preparing for this eventuality."

Joan Vila, the director general of independent tissue manufacturer LC Paper, meets me at Girona station in an electric car. "It's fantastic," he says. "The Opel Ampera plug-in hybrid is a real pleasure to use and it's also far better for the environment. It is the future." As we travel to the plant just on the outskirts of Besalú, Vila enthuses about how his passion for all things sustainable isn't just evident in his choice of car: environmental sustainability has become the philosophy of the company's tissue production.



Sustainable product innovation: Joan Villa

As we arrive at the site, he plugs the car's cable into the socket to be charged. The mill is in an awe-inspiring location - the snow-capped Pyrenees mountain range forms its backdrop, Besalú and its 12th-Century Romanesque bridge is in throwing distance, and the Mediterranean sea is just 30 miles away. In April and May, it's possible to go skiing and swim in the sea in the same day, something which Vila adds is "very good for the mind".

"Where we are located, it's just as easy for us to sell into France where there is a lot of demand but not enough capacity."

LC Paper has a well established history in the area. It was formed in 1881 on the back of the Industrial Revolution and is now well regarded for its production of niche tissue products and its ability to be flexible and innovative. The site is well contained with two tissue machines annually producing 40,000 tonnes of tissue for the AfH market. Vila says in this sector it's difficult to go up against the big players in the market, of which there are many. "Our way to differentiate ourselves has always been through being innovative," he says. "We needed to develop converting technology and new patterns, and so we invested substantially. We believe as a business that we must be environmentally friendly but also

FACTFILE:

Director general - Joan Vila

Located – Besalú, Spain

Staff – 64

Machines – two Yankee PMs: PM2 is a 3,3m Fourdrinier Yankee Machine with a production of 75t/d and PM3 is a 2,8m Crescent Former Machine with a maximum production of 130t/d

Products – standard and premium toilet roll, recycled toilet roll, towel and serviette

Tonnage – 40,000 annually 2012, 50,000tpy 2013

TIMELINE:

1881 – established

1973 - invests in a treatment plant of dispersion recovered paper that was the second plant of its kind in the world

1989 - water treatment plant was built

1993 - opens a cogeneration plant 6 MW

1999 - inaugurated a new Yankee paper machine of 3.3m wide and becomes certified to the Ecolabel

2008 - installs a flexographic printing unit on line in the MP2 for printing colour of paper

2009 - new paper tissue machine MP3

2012 – upgrades the cogeneration plant to 12 MW and 132 kV high voltage system

cost effective. To sum up, we want to be the best in terms of productivity."

There have been substantial investments made over the years. In 1999, a new Fourdrinier Yankee machine (PM2) purchased. "Before this machine, we had no creping, so it was a big leap forward for us in terms of innovation." In 2009, a new tissue paper machine (PM3) was installed to manufacture hygiene products and medical products for the AfH market. The PM3 takes gases from a gas engine of the CHP to send them to the hood of the machine, and the gases then pass through a boiler, then an economiser, followed by a heat exchanger and finally through a second low pressure



Awe-inspiring location: LC Paper's site in Besalú village



boiler. Most recently some €3.4m was spent on purchasing a 6 MW gas engine and a 132 kV high voltage system. In 2013 there are plans to upgrade the fourdrinier machine (PM2) and in 2014 they expect to become partially integrated with the new heavy tissue grades.

The company has also trialed various coatings and now uses four different types. "One of our strengths is that we're very flexible in our ability to change the coating for the product," he says. "We have experimented with different fibre compositions and chemicals and now we can get the same softness with heavy 1ply as we can with 2ply, maybe even better. And this is just one of the steps in our philosophy that ensures we are more sustainable in the products that we consume."

The other big investment has been aimed at sustainability. The company is EcoLabel certified, and has one of the lowest carbon footprints in the market according to Vila. "That's our aim, to be sustainable and environmentally friendly. It's a saving opportunity, but it's become an integral part of our business. Also, selling excess electricity is a business here and it permits us to get enough money for future investments." Recycled materials are now solely used on PM2 to produce 100% recycled tissue paper, and the company has invested in experimenting with heavy 1ply tissue products. "You don't

often see a mill with a philosophy," Vila says. "But ours is simple. In 2020, there will be far more consumers than there will be raw materials to supply them. That is a simple fact and we are preparing for this eventuality."

Vila joined the company 100 years after it was established and Spain's current economic downturn is his third crisis. "People are not spending at such a high level any more," he says. "They are prioritising food, air and water. It's survival only for many people." As of September, there was an increase in VAT across the country that has considerably affected consumption across all market areas. Family consumption generally fell 13% in September, and Vila adds that this could have an effect on tissue consumption. While external tourism is still a booming business, internal tourism is decreasing, which along with taxation, hospitals, and airports is all impacting on the AfH market. Additionally, there is overcapacity in the tissue market: in 2003, 300,000 tonnes of tissue were produced in Spain and in 2011 it was 700,000.

This has drastically affected Spain's internal market. However, Vila adds that Spain is very competitive in its external market, "and this is very important". He says: "We are now exporting into central America, USA, South Africa, Tunisia, Morocco, Australia and Germany. Our natural market



LC Paper's mill facilities



The company's PM3 machine



Wrapping system

is France. So some 35% is now going to Spain, 25% goes elsewhere and the rest goes to France." He adds that because of the economic conditions in Spain, people's priorities are changing. "But where we are located, it's just as easy for us to sell into France where there is a lot of demand but not enough capacity." He says that in the south of Spain there is very little paper making, an impact he says of "Catalonia and Spain's history and industrialisation".

"Some of the mills in Spain are in trouble, it's very difficult for them to compete," he says. "In the next few months we

***This is Joan Vila's third economic crisis:
"People are not spending at such a high level.
They are prioritising food, air and water. It's
survival only for many."***

will also see how the purchase of Georgia-Pacific's European tissue operations by SCA will change the market. It's difficult to understand how it will change things, but this decision could be the future of tissue in Spain. It's very important for the tissue market. For the other tissue mills here, it depends on whether they can export or not, because many of them can't."

For Spanish business, in 2009 there were severe problems

getting credit, and for LC Paper this meant that they couldn't get enough pulp in 2010. Two years later, it's back to normal capacity. "We chose to use that time to produce new products, and we now only produce niche products and innovate. We are flexible and that makes us different from the rest, we can be more selective about who we chose to do business with."

For the immediate future, the company needs to grow if it is going to reach its targets. The next investment will see the upgrade of PM2 to 40,000tpy while developing new technology to achieve a very low energy consumption. The business will also continue to develop new products. In 2014, it is considering starting up a converting line for the away market, and possibly also the home market.

"But our aim is not to produce all products," Vila adds. "If we did, we would not be the best, it's the wrong fit for us. Our aim is to continue to be environmentally sustainable and to serve our niche market area exceptionally well. That's the philosophy of 1ply - it has a lower cost in terms of raw material, tissue making, converting and energy, but we can still guarantee the softness and quality. That's why we're sure we're on the right track. We currently have 64 staff producing 40,000 tonnes per year, and the aim is to have 75 staff producing 75,000 per year. This will fit the consumer crisis, and it's this type of productivity that's the future."

As energy efficiencies are projected to continue to dominate the paper machine suppliers' projections. A TW report



Emmanuel Allibe, ABK Group managing director



Sonia Berretto, PMT Italia, tissue sales manager



Davide Mainardi, Toscotec sales and customer care director

1. What have been the most important technical developments at your company during 2012?

Emmanuel Allibe, ABK Group managing director: "ABK Group has taken a decisive step in 2011 with the acquisition of the well-known tissue machine manufacturer Over Meccanica. Since then, we have managed to integrate that new company, ABK ITALIA, into the group, putting in place a certain number of processes aimed at benefiting from the level of knowhow of former OM engineers, as well as from extensive workshop capacities in Verona. After one year of working together, we are pleased with the level of synergy that we have been able to reach, and of the trust expressed by the paper tissue makers at time of signing new contracts."

"In 2013 we have planned to install our own intranet in order to implement a centralised network of communication and control. On the other side we are also standardising all our internal procedures and documents. This kind of job is a step forward for the future ISO certifications of the group."

Sonia Berretto, PMT Italia, tissue sales manager: "Our present development is being carried out on new press section configurations in order to achieve higher sheet dryness out of press. We believe that nowadays the most interesting developments for

our customers are to be found in the details of the tissue machine in order to improve its overall performance."

Davide Mainardi, Toscotec sales and customer care director: "2012 has been a very important year for us. We have consolidated our position creating new project opportunities, reached important sales target (including the sale of 100 Steel Dryer TT SYD), enlarged our product portfolio with the acquisition of Milltech Company, optimised our existing product range and introduced new integrated solutions."

"Our optimised patented concept for the short approach TT SAF has been developed to provide energy savings and space savings."

"The Steel Yankee Dryer (SYD) remains one of the most interesting solutions for the drying of tissue and the reduction of energy consumption. Toscotec is the world leader in and pioneer of the SYD and has over the years carried out revolutionary applications of this technology which is now patented. We have substantial experience working in different mill environments with different types of pulp. Through our associate with Milletch, we have introduced several interesting applications using the TT SYD technology combined with different types of hoods."

"In the dry end sector and rewinder

and raw materials e headlines, TW asks for their technical

cycle, Toscotec has also upgraded its product range, preserving the bulk and quality of the tissue winding cycle as well as optimising the sheet stabilisation system."

Klaus Gissing, Andritz vice president tissue machines/air engineering:

"To get the biggest and widest Steel Yankees in operation!"

Shinji Goda, Kawanoe Zoki, design department manager: "Our BF concept has been recognised and embraced in the market as the most energy efficient machine. By optimising every component and device in the BF tissue machine to its maximum extent as well as increasing production capacity, we have succeeded in remarkably reducing its energy consumption. We have also focussed on user-friendliness to ensure overall operational efficiency.

"With our continuous development, our BF concept achieves the best investment efficiency as well as customer/user-friendliness."

Ingmar Andersson, Metso Tissue Business Unit, sales manager: "Metso has developed a unique energy recovery system in the forming section of tissue machines into a commercial product ready to be delivered to tissue makers around the world. The Advantage ReTurn system installed in the forming section recovers about 50% of energy used by the fan pump. This is very important because tissue

making uses relatively high energy levels for the fan pump as speeds are high and headbox flows are high."

Nestor de Castro, Voith Paper, president, South America: "In 2012, Voith Paper has worked in the development of a new technology for the tissue industry targeting lower energy and fibre consumptions and, at the same time, better paper quality for the conventional Dry Crepe machine market. This new technology will be officially launched soon."

William R. dos Santos, Hergen, general manager: "During 2012, Hergen has successfully started up its first Crescent Former in the Smart Plus concept, which is designed to offer excellent tissue paper quality with low cost investment. Its exceptional performance motivated the client to say it intends to invest in a second unit.

"With this same concept of high quality with low investments, Hergen has worked to update its Steel Yankee Dryers, mainly the 12" units, and has looked for economical projects with high operational efficiency.

"Following markets tendencies, it has also designed and started big diameters suction rolls (1,200mm), aiming for high operational efficiency and production of papers with high bulk and smoothness."

Ivo Olibano, A Celli, sales and



Klaus Gissing, Andritz vice president tissue machines/air engineering



Shinji Goda, Kawanoe Zoki, design department manager



Ingmar Andersson, Metso Tissue Business Unit, sales manager



Nestor de Castro, Voith Paper, president, South America



William R. dos Santos, Hergen, general manager

customer care director: "We patented and produced our innovative long life Steel Yankee dryers and have been focused on combining rewinder product improvements, particularly on cycle reduction time, speed increase, output and cost optimisation."

Mauro Michelini, Recard, general manager: "Our technical developments are generally represented by small but continuous steps forward. Any new tissue machines manufactured by Recard are different from previous ones. Sometimes the difference represents steps ahead in the paper quality, or better runability, a more environmentally-friendly machine, less energy consumption, etc. The year 2012 can be defined as a standard year from this point of view."

2. What are the key technical opportunities and challenges facing your clients? How are you helping them?

Allibe: "The pulp and paper industry has been badly hit by the economic recession in many countries around the world. The increase of the cost of

production is one of the main causes of the shutdown of a production line. Of course the problems facing the tissue paper industry in Europe are not similar to the problems faced by American paper mills for instance. Globally speaking, we can agree on three main issues facing our clients worldwide: paper quality, fibre saving and energy saving.

"In order to meet those identified issues, ABK Group is involved in a substantial programme of R&D aimed at developing specific products and at improving the reliability of already known equipment. With more than 60 years of experience, we have a sound catalogue of high technology and brand new products duly combined with full in-house and on-site services. Nonetheless we consider as essential to refresh our solutions and to keep pace with developments aimed at facing the challenges of a very demanding market. In 2013 onwards, our application and process engineers will be in charge of improving the efficiency of dry end (energy savings) and wet end (paper quality and fibre savings)."

Berretto: "The benefit for our clients has to be in terms of costs. Specifically to what PMT is developing, the new solutions will reduce drying costs and give customers the required flexibility to reach their production targets. Customers need to keep being competitive also in a frame of increased environmental constraints."

Mainardi: "Today, we stand firmly behind our products with a wealth of experience that competitors lack and we continue to make progress where it counts for businesses - capacity and efficiency. The name Toscotec has always been associated with innovation as well as in flexibility. Most of our implementations have been applied thanks to the continuous cooperation with Final End Users. The market is now recognising that the TT SYD has been the most revolutionary tool in the tissue industry during the past 12 years. When we introduced

it there were a lot of concerns due to the conservative nature of the industry as well as comments against it by companies that are now also proposing the same concept. We strongly believe that we have helped our customers find ways to produce tissue at lower costs with high quality and safety, while maintaining energy saving and helping mills to remain more sustainable and "green" in terms of emissions.

"We are now a global supplier that offers a wide range of solutions from stock preparation, tissue machines (conventional and TAD up to 6m wide), Steel Dryers (up to 22' diameter and 8.2m shell width), hoods and drying solutions up to winders. Our added value lies in the ability to manage turn-key solutions and complex rebuilds. Our implemented service and follow up offers options that can complete the full cycle for the tissue machinery business."

Gissing: "Operational costs generated by raw material and energy. We are working primarily on further energy savings on the whole process."

Goda: "Our clients focus on productivity and runnability improvement, as well as energy efficiency. While there has been strong demand for these developments in new tissue machine projects, we also see demand growth for upgrading existing machines with these latest technologies. Kawano's commitment to pursue efficiency and optimisation allows us to meet the clients' needs for such upgrades with minimum investment and the best results.

"Our dedicated customer support team responds timely to customers' needs and technical or operational inquiries. One of our strengths is proximity to our clients, allowing us to offer dedicated and ongoing customer service and technical assistance."

Andersson: "The reduction of operating costs is always on the agenda of tissue makers. Reduction in fibre costs is therefore very important and new tissue making technologies that provide new standards for bulk and

performance make their way into the market while at the same time using less energy."

De Castro: "The escalating energy costs are a real challenge for all tissue producers worldwide but mainly in Europe and some countries in Latin America and Asia. For that reason, Voith Paper's focus for all new developments for the tissue industry is on solutions that save energy and natural resources, such as water and fibre – from stock preparation to all tissue machine areas.

"Additionally, the increasing demand for better products in several developed and emerging regions worldwide is also pushing our customers to the edge. Voith Paper has recently developed products to support our customers to deliver better quality in those regions. A very good example for that is ATMOS, a technology that allows the production of premium and ultra premium tissue with less fibre and energy usage."

Santos: "Our main focus to fulfil our clients' needs is equipment that reduces energy and water consumption, and is also associated with high quality paper. Hergen is working very hard to adapt its products to this challenges and necessities."

"Current efforts for savings in raw material, water and energy will continue and at the same time production efficiency should be further improved. Make more with less."

Metso's Andersson

Olibano: "In the current hard times, more and more customers are willing to push the existing equipment up to the maximum of their capacity, before investing in new equipment. Increasing existing machinery efficiency and speed, optimising the automation level, understanding the customer's wishes and needs and being able to work on this, is now even more important than

in the past."

Michelini: "Clients are more and more exigent. Our philosophy is to be flexible at the extreme. In this way we are pushed to study new solutions and modify our machines to meet their needs. This makes our work harder but at the same time obliges us to grow technically."

3. How are you focusing your attention on saving energy?

Allibe: "Thanks to the synergy between ABK Machinery and ABK Italia, a new generation of headboxes has been created. This new headbox is mainly used in tissue machines and can give the usual top class formation performance of the Dynaflo CR at higher consistency, especially at speeds higher than 1,800mpm. The design is of modular type, so that with a small intervention its configuration can move from single to multilayer. Advantages in terms of fibre savings are promising, and water consumption is reduced.

"On the dry end, our sister company MDS (known as MADELEINE) has developed a new steam generator able to recover more than 25% of the steam required in the Yankee using the hood exhaust air. As a result, the total gas consumption of the tissue machine is drastically reduced with an unquestionable advantage in terms of energy saving."

Berretto: "Energy consumption often remains one of the main uncontrolled issues. This can be partly overcome by new cost efficient technical solutions, which again are to be found in the detail design of the equipment. Part of the increasing energy cost can also be offset by an increased efficiency of the tissue machine. For this we believe that the best way for us to help our customers is to offer customised solutions, i.e. develop the best technology on a case-by-case basis taking advantage of our customers' knowledge of the peculiar production environment."



Ivo Olibano, A Celli, sales and customer care director



Mauro Michelini, Recard, general manager

Mainardi: "We are focused on approach flow, headboxes, pressing, TT SYD and heat recovery in the steam and hood circuit. During the past two years, Toscotec has mainly worked on optimising solutions to save energy and fibre. In parallel with the Steel Dryer we have developed and optimised the application of our big suction press roll (TT SPR 1430) in the press area to enable us to work with a longer nip and higher nip load. In addition, energy recovery with the steam generator and heat recovery systems has been applied to the hood using exhaust gases, as well as on turbo-blower vacuum pumps.

"A new range of products as indicated above that is optimising the usage of steam instead of natural gas (the ES tissue line) has been developed specifically to meet energy savings demands. Many references for these machines are now up and running in China with low energy consumption figures for the overall mill process (less than 2.100 KWh/tonne)."

Gissing: "Higher post press dryness

and improved re-generated heat."

Goda: "Pursuit of saving energy and efficiency is open ended. We have offered our heat-recovery system, high efficiency Yankee hood, and CBC creping blade control, all of which have made a significant contribution to energy saving. One of our latest developments is the BF-DD6000, a high efficient refiner, applied spline-technology that achieves significant energy saving of up to 30%. Our approach is for comprehensive energy saving throughout the tissue production line."

Andersson: "Energy savings are always a key driver for all development projects. Metso is putting significant importance on energy savings in future processes."

De Castro: "Voith Paper has recently developed several products to reduce the energy consumption in the tissue production, from the pulper to the reel. Some examples are: the new Intensa Pulper, the Pluralis refining disc, the new MasterJet Pro T headbox, the 2nd shoe press generation named NipcoFlex T, the ATMOS technology for premium tissue, the Steel Yankee to save steam energy, among others."

Hergen: "Hergen is focusing in the optimisation of its Steel Yankee Dryers' projects aiming to develop tissue machines' productivity up to 35% comparing with the conventional cast iron ones. Also in the development of a metallic coating (metallisation) with higher hardness providing applications with lower thicknesses which allow better thermal transfer levels beyond better creping and raising paper's quality."

Olibano: "More and more customers are considering the energy consumption level as a major factor in the choice of the machinery supplier. In this respect we are giving our customer a return on investment calculation for any improvement introduced, aimed at decreasing the energy consumption value. We are hence supporting a responsible customer's attitude in

taking decisions. Our proven results in terms of overall energy consumption constitute one of the best examples of our excellence in tissue machines technology."

Michelini: "Solutions to save energy are available in many areas of the tissue plant. They are well known to us and are offered to those customers who appreciate them. Sometimes the cost is too high, so they are obliged to accept standard solutions."

4. What areas will your R&D research be on in the next few years?

Allibe: "We are investing in Dry Crepe tissue as well as in TAD tissue machines with a new TAD machine concept based on multi-dryer drums. This development is going in the direction of high paper quality and energy saving performance. The use of our pilot machine will surely increase our capability of designing new and more reliable machinery. It is also a tool for our customers for products development."

Berretto: "Shoe press application needs to be possible at all levels, no matter what the size and the speed of the machine are. Increased production capacity and efficiency are a target, but also quality must be improved. R&D needs to take all needs into consideration at one time. Sheet properties can be kept under better control if production monitoring and controlling can be directly linked to all production tolls on the run."

Mainardi: "We are mainly seeing potential development in the pressing area, as well as solutions for overall mill operations. We are also ready, after years of research, to start promoting and proposing our next generation of Steel Yankee Dryers that will allow us to reduce more energy consumption. We are always looking for ways to improve product features and find ways to make our products more energy efficient. Specifically, in cooperation with Milltech, we are working on solutions that integrates the press, Yankee dryer,

hood and steam systems. This could be advantageous because it can be customised with the goal to reduce energy consumption by 15-20% with respect to conventional systems. Plus, with our experience from the paper and board industries we are developing and starting to promote a tissue press that can produce higher quality products or result in energy savings."

Gissing: "Operational costs."

Goda: "Our commitment is to constantly develop the lowest utility per tonne production machines while enhancing production capacity. Our latest machines are currently operating with high consistency forming, and this is having a great impact on energy saving. Therefore, we are striving to implement even higher consistency forming in the future."

Andersson: "Current efforts for savings in raw material, water and energy will continue and at the same time production efficiency should be further improved. Make more with less."

De Castro: "Our tissue R&D team will continue to focus on the development of new technologies which save resources, such as water, energy and fibres as well as reduce the production costs and, at the same time, allow our customers to deliver better products to their customers, the end consumers and supermarkets. Thereby, we are always looking to the necessities of our customers that vary from region to region around the globe."

Hergen: "In the reduction of energy and water consumption, keeping product's quality and manufacturing customised machines according to each specific need from each client."

Olibano: "On winder technology the optimisation of the entire cycle is our goal. Many serial operations are still present in the state of the art of winding. Minimising them, toward an optimised cycle, will be a benefit for both the safety and the production."

"On the tissue machine, after concentrating on drying during the last two years, it's now time to focus

our efforts again on the devices directly affecting tissue quality, like the headboxes, to keep and improve our positive gap versus the competitors."

Michelini: "Energy reduction will be a must in the future. The research will be focused to find low cost applications."

5. What are your views on the Steel Yankee versus conventional cast iron?

Allibe: "In combination with the Yankee hood, a new concept of Yankee dryer has been designed. We are manufacturing the first Yankee dryer with heads made of cast iron and the shell made of steel. The aim of this project is to provide a Yankee offering the advantages of both technical solutions (cast-iron and steel manufacturing)."

Berretto: "The question of iron versus steel is common. The Steel Yankee are a fairly recent product and so there's very little long term knowledge. There's no difference in performance in either iron or steel, although steel is stronger but the thermal stresses are much higher, so this tends to even things out. Steel manufacturers claim an increase in evaporation rate, but they tend to base it on the old iron Yankees that they are replacing; a new iron Yankee would also have an increase in evaporation due to superior rib design and condensate system. Of the new Yankees we are now quoting against steel that there is next to no difference in evaporation rate, while a steel Yankee shell is manufactured by rolling and welding, creating seams with a change in thermal and mechanical properties every revolution of the Yankee, thus creating wet/dry strips and shape/crown change and the seams themselves are subject to fatigue."

Mainardi: "There are no doubts in terms of benefits in a Steel Yankee adoption: several applications in all type of mill conditions (raw materials, chemicals, coating etc...) as well in sizing have defined which are the main advantages of the Steel Dryers. This includes reducing root thickness by using steel

instead of cast iron to increase heat transfer coefficient, superior hardness through thermal spray metallization, more flexible production process than for cast iron Yankees – also no risk for casting failures, delivery times normally shorter, easier maintenance, vertical start-up and easy-to-coat surface as well as a reduced warm up procedure to name a few.

"More than 140 tissue Steel Yankee Dryers have now been delivered or are on the order books, the majority of which are represented by Toscotec TT SYD of all sizes. Steel Yankees already account for half of Yankee deliveries."

Gissing: "Steel Yankees became a reliable technology that decreases energy consumption and increases runability."

Goda: "There are already several Steel Yankee installations in Asia. Performance analysis from various prospects is ongoing because we view it as potential technology."

Andersson: "The Steel Yankee has earned its share of the market as a good complement to cast Yankee cylinders suitable for certain applications, particularly for smaller standard dry crepe Yankee cylinders. However, Metso also has the best available Casted Yankee Technology and the resources for making such Yankees based on over 100 years of good experience.

"In many cases, technologies as TAD and the new textured type processes do not allow for the use of Steel Yankees as these always have to be metalised on the surface. Metalised surfaces do not stand the high doctor blade loading necessary for such processes. Additionally, in the case of high pressure loading from the ViscoNip or shoe type presses, the deep rib casted Yankee is still outstanding. Furthermore, it is a myth that the Steel Yankee consumes less energy. The energy needed for evaporation depends on the amount of water to be evaporated and also a modern, deep rib Yankee has excellent data for evaporation. Therefore both

types of Yankees will be used for years to come."

De Castro: "Voith Paper is the only tissue machine supplier that has the capability to offer both solutions, the well-known Cast Iron Yankee and the Steel Yankee. As a result, Voith Paper really supports every customer to choose between these two solutions, always highlighting the benefits of both technologies, such as the longevity and thermal stability from the Cast Iron Yankee and the better heat transfer and thus, lower steam consumption of the Steel Yankee, for example."

Santos: "Steel Yankee Dryers are the future for tissue machines due to its high quality, stable work behavior and reduction impact in the energy consumption."

Olibano: "While we do see an upward trend to Steel Yankee dryer, motivated by the higher heat transfer capacity, we think the Cast Iron Yankee has other advantages. Thinner shells accompanied by higher ribs and surface metallisation has brought the Cast Iron Yankee to a new competitive position supported by decades of references. We explain to our customers the different features of both Yankees and help them to make a conscious decision based on their specific needs."

Michelini: "Absolutely positive."

6. What overall trends in tissue machine manufacture will have the greatest impact on the production process in the next decade?

Allibe: "As a papermaking equipment builder now playing a significant role on the international scene, ABK Group is definitely ready to face the challenges of the future tissue market and to develop energy saving solutions limited to the paper machine. This will mean the use of ever more efficient pressing techniques in order to reduce the amount of water to be evaporated from the paper, and at the same time we will design more and more efficient heat recovery devices to avoid as

much as possible wasting heat and energy into the atmosphere. Among many tracks of investigation, we are studying a heat recovery system for our tissue machine hoods, capable of recycling the heat extracted from the tissue machine and of reducing the temperature of the exhaust air to the very minimum."

Berretto: "High performance of the systems in terms of energy consumption is a trend, which has already started and will continue. Once again, technical solutions will have to be tuned on the specific needs of the clients. High speed and width will always be an issue for new machines in some parts of the world, provided most new machines will be there. For other quality trends, they must be analysed not only by geographic areas, but also by single countries within a same continent. "Better tissue quality" doesn't have the same meaning everywhere and hence the impact

on technology can be different. This means that also technology will need to be customised."

Mainardi: "Pressing is certainly the main area for continued development in tissue machines, but sheet stabilisation between Yankee and reel and winding operations also require significant focus. The use of different pulp types in new market areas around the world is an issue which requires specific attention in order to maintain efficiency and quality results.

"There has been and will be a lot of growth in the Asia Pacific area and so we aim to stay on top of it. That is why we started up Toscotec Asia Pacific in China with an integrated international team located in the region to guarantee more immediate response to our clientele there.

"But in general, we are hoping to grow in a sustainable way, while continuing to offer high-quality products and services worldwide. We believe in

quality over quantity. We think there are still many opportunities, not only in China, but also in North Africa, Russia, India and south America. The north American market could also be attractive. In this area we see opportunities working in rebuild projects with high technological contents as well as we trust that, with the new demand for private labels, the market could reserve rooms for new conventional machines."

Gissing: "Raw material and energy."

Goda: "Energy saving. Regardless of machine size and production capacity, energy saving continues to be a major challenge for tissue machine manufacturers. The industry's focus has been on recycling to tackle this challenge, and Kawano's future attention will certainly remain on this area as well. We will continuously develop our BF with innovative technology in recycling fibre, water, and energy."

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Andersson: "The development of tissue products for different markets will change the requirements for production equipment. Today tissue products preferred by customers are very different for different markets. North America for example has other product trends and marketing strategies compared to China. If comparing to other industries, it's likely that marketing practices globally will emerge and call for new premium products in less developed markets today. The amount of labour for tissue manufacturing needs to be reduced as the cost increases at a fast pace in all markets. This will lead to other tissue production processes, higher efficiency and increased automation. However this development will still require a constant striving for reduced production costs."

"While we do see an upward trend to the Steel Yankee dryer motivated by the higher heat transfer capacity, we think the Cast Iron Yankee has other advantages."

A Celli's Olibano

De Castro: "The goal is to continue developing products and technologies to support our customers worldwide, and that is the real benefit for our customers of having a global and innovation-driven company."

Santos: "Machines with high operational speeds with good runability which are still technological challenges. Other key point are machines with ever more modern concepts, reducing water and energies (thermal and electrical) consumptions optimising costs and profits."

Olibano: "Asia and particularly China will increase their production capacity at a faster pace. Machines with higher production, lower energy consumption and quick return on investment will be the trend. Large and high speed machines, in some cases with steam heated Yankees, will meet this demand."

"On the other hand, there will be emerging countries like Africa entering the scene. They will require smaller units (30t/d) with crescent former latest technology. Compact std machines, with low cost, will be the answer to this demand."

"Softness and accuracy in the humidity profile and in the basis weight, are still in the next decade trend for premium products."

Michellini: "The tissue market is continuously requiring more soft paper. The production of soft paper requires high-energy consumption and this is against the request to save energy. The production process will change only if tissue machine manufacturing companies will be able to find a good compromise between the two above needs."



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- Face to face contact with tissue experts
- Mingling with industry peers
- Get out of the day-to-day routine to find new inspiration and concepts.

Come to Barcelona to learn new things to help you do your job better.



Official
Publication

TISSUE
WORLD

Register today at tissueworld.com/world
For further information, please contact info@tissueworld.com



Here are the world-leading companies that will be participating and ready to meet you at Tissue World in Barcelona.

9. SEPTEMBAR D.O.O.

B50

9. Septembar Group a well-known Serbian manufacturer of tissue converting machinery for the automatic production of tissue and nonwoven napkins, handkerchiefs, and toilet rolls is again bringing its latest innovation to be seen by its partners, clients and business friends. At its stand (B50), the company will give visitors a live demonstration of the following innovations:

- Vacuum folding Completely Automatic Handkerchief line with working capacity of 2000pcs/min
- Robotic packaging of finished goods
- Bundling packaging machine for Handkerchiefs
- High-speed packaging machine for toilet rolls

9. Septembar is also one of the key manufacturers of the Automatic Napkin production line with or without print, and with a working speed of 600m/min.



ABK ITALIA S.P.A.

C70

The products and services offered by ABK Group include:

- Complete lines for tissue, paper and board
- Turn-key projects • Rebuilds and upgrades of existing plants and machines
- Hydraulic headboxes
- Multiwire fourdriniers
- Gap formers • Crescent formers
- Bi-nip and tri-nip presses, jumbo presses and shoe presses
- Size/film presses and ITURN
- Drying sections • Yankee cylinders
- Coating sections • Infrared dryers
- Air tunnels and Through Air Dryers (TAD)
- Hard and soft calender
- Hydraulic reels • Winders
- Closed hoods with web stabilising system
- Air caps • High efficiency hoods
- Heat recovery systems and heat exchangers • Building ventilation systems
- Plant engineering and customer service covering PM survey, diagnostic, personnel training, plant maintenance



ACE ELECTROSTATIC

B280

ACE Electrostatic is a worldwide leading company involved in the development, production and sale of web cleaning and electrostatic solutions. Its 30 years experience has allowed it to enforce



its presence in tissue converting, where problems of dust and paper fibres have a predominant role. The wide range includes:

- Web cleaning systems that are able to remove dust contamination particles and excess paper fibres from tissue reels, thus ensuring finished products free from impurities, longer production yields on printing and converting lines, as well as a cleaner environment
- Electrostatic charging systems, which keep together different tissue layers before printing and converting processes
- Ex/Atex static discharging equipment, to remove even the strongest electrostatic charges from plastic films and tissue paper

AETNA GROUP

E80

AETNA GROUP

produces and sells stretch film wrapping machinery, bundlers, shrink film wrappers, cartoning and taping machines on a worldwide basis. The group counts over 400 staff of which 80 servicemen engaged in the After Sales Department with a yearly turnover of over €85m. It has five production plants for four commercial brands: ROBOPAC, ROBOPAC SISTEMI, DIMAC and PRASMATIC, and an international network of over 450 agents and distributors, and six subsidiary companies located in France, Great Britain, Germany, United States, Russia and China. With over 100,000 machines sold and installed worldwide, the AETNA GROUP can offer a wide range of solutions and services to meet a variety of requirements in the packaging sector.



ALGAS GMBH

C650

Algas GmbH /Germany is an engineering, marketing and sales company that develops and supplies ALGAS Microfilters for effective water treatment, like raw water treatment, fibre recovery, process water cleaning, waste water treatment and polishing applications for the industries.

- Mechanical treatment before sewage plants
- Polishing after sewage plants - reduction of COD

AMACO GROUP S.A.L.

D50

AMACO is headquartered in Lebanon and has over 25 years of experience in the manufacture of converting tissue paper machines. Its wide collection of products, know-how, creativity and goal-oriented approach made it a potential partner for the execution of complicated



and time-intensive projects. Quality, flexibility and innovation are the integrative parts of the company's philosophy and have enabled the business to become a provider of numerous products to its business partners worldwide. Its quality standards meet international requirements and its continuous improvement process was recognised after it was granted the highest grade. The company said that its ambition and development will continue without limits.

ANDRITZ AG

D400

ANDRITZ PULP & PAPER is a global market leader in the supply of systems and services from the woodyard



to paper finishing. The ANDRITZ tissue group provides customised (conventional and TAD) as well as standardised tissue machine concepts (COMPACT). Ventilation and drying systems as well as energy saving solutions complement the portfolio. A definite highlight is the PrimeDry Steel Yankee, a high precision drying cylinder. ANDRITZ is also a leading global supplier of fibre preparation systems and equipment for the provision of fibre. The product portfolio is supplemented by sludge, reject and internal water loop handling. Service activities are focused on assisting customers to increase their operational efficiency, engineered wear parts and second hand machinery.

AQUA+TECH SPECIALITIES SA

H220

Aquatech is a German-based firm developing, producing and marketing polymers for applications where clear water is a benefit. One of its products is the polymac which increases the productions of tissue machines, while reducing energy and increasing yield.

ARJOWIGGINS LE BOURRAY

B110

Arjowiggins Le Bourray is well-known throughout the world as a specialist in the development, manufacture and sale of special tissue to converters. Its tissue is mainly used for table top products, printing and hygiene and has unique characteristics. The colour, printability, stretch, strength and grammage can all be adapted to optimise a customer's production processes and meet the requirements of the most demanding jobs.

ASHLAND INDUSTRIES GMBH C250

For nearly 100 years, Ashland Water Technologies has partnered with tissue makers to provide Yankee coating expertise, state-of-the-art product innovations and customised R&D support. Known as the Ashland Advantage, these capabilities enable its customers to reduce their total cost and focus on value-added programmes. As the supplier of choice for nearly 70% of the industry, Ashland can provide every specialty chemical requirement for dry crepe operations. It was selected as the start-up supplier on more than 30 new tissue machines during the past three years. With a growing trend towards structured sheet capabilities, Ashland has a full complement of chemistries and technical know-how for this manufacturing approach. Its highly skilled experts will be available to discuss visitor's particular needs, bringing together innovative chemistries and experienced people.

**B&B-MAF H170**

B&B-MAF is an owner-managed, medium-sized packaging machine manufacturer and regards itself as a global innovative partner of the packaging industry.



As of today, 120 staff are employed at the plant in Hopsten, Germany, and in Green Bay, WI, USA. In the segment of end-of-line packaging, B&B-MAF is characterised by a high degree of know-how and experience in the handling of numerous paper products. Continuous development in this sector puts the company in a position to offer high-end packaging solutions for a multitude of tissue products: packaging of paper rolls (dispenser/system/industrials rolls, including plus-inserting); hygiene products (toilet paper, kitchen and folded paper towels); pre-packaged products (diapers, napkins, etc).

BAOSUO MACHINERY & ALVAREZ T.M.E. B300

Baosuo Paper Machinery Manufacture Co., Ltd specialises in manufacturing tissue converting machinery such as fully automatic toilet/kitchen towels rewinding lines, automatic facial tissue folder production lines, rewinders, facial tissue folder machines, slitting and rewinder machine, mini hanky machines and more.

FOSHAN NANHAI BAOTUO PAPER MACHINERY CO., LTD. F90

SF12-SF15 suction former Yankee tissue machine and BT12-BT15 suction former Yankee paper machine.

BHM-INGENIEURE ENGINEERING & CONSULTING GMBH E350

BHM-INGENIEURE is an engineering and consultancy company with 140 engineers,

working mainly for the pulp and paper industry since 1992. BHM is located in Austria and has seven subsidiaries as well as several network partners in different European countries. It is an expert in the field of building related overall engineering and project management and provides its services to clients in the pulp and paper industry. Its main markets are the EU countries and it is also increasing its activities as consultants and engineers in eastern Europe countries, Asia, America and Africa.

BRUNNSCHWEILER, S.A. D180

With more than 50 years experience, Brunnschweiler is a leading innovator of advanced drying and ventilation techniques for the paper, tissue, board and pulp manufacturing industries, offering personalised service from project definition through performance testing. For the tissue paper industry, the company builds large High Velocity Hoods for state of the art Yankee machines, including cogeneration systems for improving reliability and efficiency of drying processes. It supplies Mist Removal Systems and the Hall Ventilation Systems to many tissue plants. One of its most exciting advances in the tissue field is the ability to gain significant savings in fuel consumption.

**BTG ECLÉPENS S.A. B600**

BTG: innovative, cost-effective ways of improving the productivity and profitability of its customers. It pioneers advanced technologies; a scope of high-performance creping blades, a full range of process sensors and analysers based on the latest advances in process analysis, as well as collaborative project approach to tissue mill economic enhancement.

**BUCKMAN E150**

Stop by Stand E150 to hear about Buckman's innovative technologies for tissue:

- 2012 US EPA Presidential Green Chemistry Challenge Award winner, Maximize® is enzymatic technology that improves bonding strength, tensile, softness, bulk and reduces energy usage
- Buckman® 691 softening technology, applied in the manufacturing wet end, gives a lotion-like feel
- Buckman's proprietary coating extender technology for TAD, ATMOS and other structured tissue machines provides better quality and productivity
- Bubond Soft coating technology allows manufacturers to avoid chatter inducing conditions while pushing machine speed and quality
- The SELECTsm Yankee dryer adhesive system provides ideal coating properties on any dry crepe Yankee for any tissue grade

Buckman

C.G. BRETTING COMPANY INC. D300

The company's tissue, towel and napkin converting equipment and line of packaging options provide the



flexibility required to satisfy production and market requirements. Highly skilled field service technicians are available to assist customers with installation, integration, training and troubleshooting. The recently acquired S&S Specialty Systems has enhanced its current product offering to better-fit customer needs. Continuous research and development efforts by its knowledgeable engineers and technicians are enhancing its product lines to give you a competitive advantage. The company adds that as a world class manufacturer it believes in one thing - delivering as promised and earning the right to be the customer's choice.

CARTIERA DI TREVI F380

More than 50 years ago, in 1960, the Grazioso family founded the Cartiera Di Trevi paper mill, focusing on technological development and meeting the real demand of the market. Nowadays it produces paper and cardboard exclusively from recycled waste paper. Product quality is ensured by its careful selection process, innovative technological solutions, experienced workforce and cutting-edge analysis laboratory. The range includes paper for corrugated boards, greyboard, honeycomb cardboard, high resistance board (kraft) and laminated. Its commitment to the environment has always been at the root of eco-compatible development strategies of Cartiera Di Trevi.

CARTIERA TORRE MONDOVI SPA C450

Cartiera Torre Mondovì S.p.A., owned by the Ghigliotti family, has been operating in the paper industry since 1902. Its goal has always been technological evolution in the production of coreboard for manufacturers of spiral tubes. At its paper mill located in the north-western Italian region of Piedmont it specialises in the production of grey-grey and white-white coreboard for tissue paper. Cartiera Torre Mondovì has always been aware of the importance of achieving environmental sustainability and it only uses raw materials with a low environmental impact such as recycled paper. The company exports 70% of its products to Europe and its key customers include leading multinational companies.

CELLWOOD MACHINERY AB C650

Cellwood Machinery will showcase its successful KRIMA and GRUBBENS brands. The KRIMA line includes the market



leading dispersing system designed to handle today's contaminants found in recycled paper. It offers proven performance and reliability as well as numerous advantages including high efficiency and

low power demand. Where brightness is a concern the KRIMA will allow for a unique way of sequence bleaching with substantial savings in operating costs as a result. The GRUBBENS line with the well-known pulpers, for both under machine and bale installations, gives unparalleled reliability and energy savings. With technology and knowhow Cellwood supplies new pulpers or rebuilds to mills where capacity reliability and energy are important factors.

CERMEX

G150

Automatic case packaging, shrink wrapping and palletising solutions. Global expertise meeting your local requirements. With an annual production of 450 machines and over 10,000 machines already installed, CERMEX is present on a world-wide scale thanks to an international network. With more than 350 machines installed for the tissue industry, the company wide range of equipment means it is your contact for any end of line projects.

CHYAU BAN MACHINERY CO., LTD.

F410

Chyau Ban Machinery is based in Taiwan and produces a "One Production Line System" to efficiently and effectively produce great products. These include: Facial Tissue Machines, Z Fold Hand Towel Paper Machines- Z Fold (1-2 ply), V Fold Hand Towel Paper Machines-V Fold (1-2 ply), 1/4 Fold Napkin Machines, Pocket Tissue Machines, Toilet Roll Paper Machines, Kitchen Towel Paper Machines, Log Saw and Box Facial Tissue Sealing Machines.



COMER SPA

E200

Comer SpA. has a history of technical innovation, quality stock prep and headbox products, and quality workmanship since 1960. Comer's objective is to provide effective, technological solutions to their customers worldwide. The company does not just supply technology; its first and most important object is to identify and propose, in each individual case, the technology that best suits the customer's target. Comer specialises in tissue machines, headboxes, rectifier rolls, slice lips, DIP and OCC lines, stock preparation equipment (including high and low density pulpers, broke pulpers, cleaners, screens, washers, flotation cells, thickeners, dispergers, rejects handling equipment, agitators, deflakers and refiners).



CONSULTORIA DE TECNOLOGIAS PAPELERAS S.E

F390

- Consulting for paper industry
- Engineering for paper process
- Machinery and equipment for paper industry
- Management consulting.

CONVERMAT CORPORATION D170

Convermat is a world-leading supplier of parent rolls of tissue, napkins, towels, wipers, air laid and other specialty paper grades. Founded in 1976, the company is active in more than 80 countries around the world with its major market share in US, Canada, Mexico and a number of growing and merging international markets. The company said the close partnership it maintains with mills and independent converters provides its customers with the strongest sense of security for their long-term requirements.

COPASA (COSTRUCCIONES PAPELERAS, S.L.)

A280

COPASA has more than 30 years experience in manufacturing brand new paper making machinery, especially for tissue and corrugating papers. It makes modern highly efficient machines that have working speeds of 1700m/min with a CrescentFormer. Its scope of supply is from pulper to rewinder, including project engineering. Its commitment with customers is from civil work engineering until staff training and machines startup and it also deal with secondhand machinery; it can rebuild, transform and update complete paper mills or single sections. It also makes Yankee and drying cylinders high-quality metalising and grindings and its JVC felt and wire conditioning systems are worldwide renowned.



CPS COMPANY S.R.L.

F80

Founded by Paolo and Stefano Cassoli in 2002 in Bologna, the CPS Company is firmly based on the Cassoli family's heritage of know-how. A pillar of Italian industrial packaging machine design and manufacture, the family has been active in this sector with its "Cassoli" hallmark since 1964. Thanks to the technical know-how, over 45 years of experience and worldwide outstanding reputation in the tissue industry, CPS Company has produced the so called third generation of folded product wrappers, which may be considered the breakthrough in this field. The innovative wrapping cycle added to the patented features such as "Easy tear", "Resealable" and "One by One pick up" on its napkin and facial tissue wrappers have stormed the market.

CROWN PAPER MILL LTD.

B70

Crown Paper Mill Ltd. is a manufacturer of tissue paper jumbo rolls, ranging from 13.5 gsm of delicate facial tissue to 38 gsm of strong hand towels, with a wide spectrum of the lightest of pastel shades to the darkest of deep dye colours. The PM-1 in Ajman has a deckle width of 1860 mm, a virgin line, also specialising in deep dye tissues, and a production capacity of 11,000 MT per annum. The PM-2 in Abu Dhabi has a deckle width of 2700 mm, a virgin and recycle mix line, capable of manufacturing 4 ply tissue and edge embossing of the jumbo rolls with a production capacity of 24,000 MT per annum. Apart from supplying to converters in the local UAE market, goods are exported

to over 20 countries including Middle East, Australia, United Kingdom, Singapore, Indian sub-continent and Africa.

DCM USIMECA

A380

DCM group is a 59 years experienced manufacturer of converting machines for paper and film. The group comprises four companies: DCM USIMECA, ATN, HOLWEG, H.G. WEBER. DCM USIMECA is the French manufacturer of interfolders for the production of facial tissues, hand towels, toilet tissues and wet wipes. An embossing unit and flexo printing in-line can be added to the interfolders.

DECHANGYU PAPER MACHINERY MANUFACTURE CO., LTD.

C170

Dechangyu Paper machinery manufacturer Co., Ltd is one of the leading manufacturers for all kinds of tissue converting equipment in China. Its company was established in 1987 and now has 300-350 staff, offering machines for various tissue products such as toilet roll, kitchen towel, facial tissue, hand towel, table napkin and handkerchief, jumbo roll slitting rewinder, core machines, Nonwovens processing machines and their auxiliary packing equipment.

E.I.L. SRL

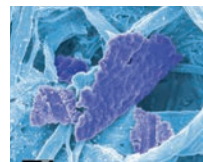
F260

E.I.L. Srl has always built its systems using a production philosophy based on quality and giving a specific "identity" to all its achievements. This "identity" comes from the continuous search of the best parts to build its electrical systems, rejecting the convenience of only one producer of electrical components, and it is confident about providing an installation created with the best offers on the market. It builds its systems with extreme care, using the best brand components. Once fully assembled, the panels are extensively tested by its qualified technicians.

EDT-ENZYMATIC DEINKING TECHNOLOGIES

F300

Enzymatic Deinking Technologies (EDT) will exhibit its patented Enzynk® and Refinase® enzyme technologies. Novel mixtures of tailored enzymes are rapidly changing the tissue industry and EDT is at the cutting edge of this field. Deinking improvements in brightness, dirt counts, fibre yield and equipment efficiencies are being achieved using Enzynk®. Revolutionary production cost reductions of up to \$60 per tonne are being achieved using Refinase® with no capital investment required. Let EDT show you the power of its customised enzyme technologies.



EKA INDUSTRIAL PAPER PRODUCTION CO LTD

F240

MG and tissue paper producer in rolls.

ELETRIC80 SPA

Elettric 80 is an international supplier of end of line and warehouse solutions that improve the value chain. Elettric 80's Freeway® systems, ever more flexible, reliable and fast, enable planning and controlling production, storage and shipping activities while guaranteeing the total traceability of moving products. Freeway® is a highly flexible handling system that uses palletisation robots, a wide range of laser-guided vehicles (LGVs), high speed robotic strapping machines (Silkworm) and a pallet control system. The entire process is centrally controlled by SmartWMS, the latest generation Warehouse Management System designed by Elettric 80.



D350

EMBOSSING WORLD

The Embossing World company is situated in Italy and is specialised in the embossing of steel rolls and construction of machine's parts completed of embossing rolls. It is specialised in the tissue field and supplies couples of rolls for tissue and single roll for toilet paper. Its technology "Pin-To-Half Flat" allows customers to obtain packages of napkins without the "wedge effect" and its uniformity significantly reduces the space within the packet itself allowing a remarkable saving on the packaging. Its products include: rolls pin-to-flat for napkins and handkerchiefs; Pin-to-Pin for napkins; complete embossing station per paper; plate.



H200

EMTEC ELECTRONIC GMBH

Emtec Electronic GmbH is a developer, producer and international distributor of Paper Testing Technology. The measuring results of emtec TSA Tissue Softness Analyser are objective, highly accurate, reproducible and in a very good correlation to the subjective human hand feeling. Beside the calculated parameter HF handfeel, the device measures three single parameters: real softness, smoothness/roughness and stiffness. So the application of the TSA opens a high amount of options in process optimisation, product development, quality assurance, complaint management and benchmarking tests. Beside this innovative device, the company offers the CAS Charge Analysing System and the FPA Fibre Potential Analyser.



E580

ENERQUIN AIR INC

Enerquin Air is a worldwide manufacturer of drying equipment for the tissue, paper and board industry. Its expertise in energy optimisation, coupled with the dedication of our service team ensures we provide unique solutions to optimise mills production processes. 30 years of high quality engineering, design, fabrication, installation and service.

A640

EUROFINS ATS

Eurofins ATS is specialised in consumer product testing and has worked for more than 30 years with major European retailers, manufacturers (national brands, raw materials and private label) and consumer organisations. Expertise is offered in four main categories including: • Cosmetics and toiletries • Detergents • Hygiene & Paper • Hardlines • Household Products. It offers a wide range services for quality compliance, claim support, benchmarking, including: • Performance tests • Chemical and physical analyses • In vitro studies and clinical studies • Expert panels and Consumer studies • Technical assistance, consultancy and complementary services in legal/regulatory assistance.

EUROINCIS SRL

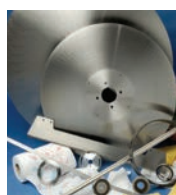
Founded in 1950, Euroincis is a leading manufacturer of embossing rolls for tissue paper industry. It specialises in cylinders and systems for all the tissue products including rolls, kitchen towel, toilet, industrial towel, folded products, napkins, handkerchiefs, towel. The embossing systems are: • Deep hardened matched steel embossing rollers (tip to tip, flat to tip, continuous embossing, traditional sized embossing "micro" for low volume sized napkins) • Steel to paper embossing rollers (continuous embossing and sized embossing) • Steel to rubber embossing rollers (decorated embossing and micro embossing) • Anilox roll.

EUROSPRAY SPRAY AND FILTER TECHNOLOGY SL

Spray Nozzle and Filter Technology: Offering experience and service to our customers. Over thirty five years of experience and a simple and efficient organization symbolizes the company. Eurospray with its headquarters in Barcelona, Spain and specialized manufacturing base of spray nozzles and filtration systems in Treviglio Italy is ideally placed to give the service, products and competitive pricing demanded today.

FAURE

FAURE is a French manufacturer that delivers industrial knives and blades to the tissue, wood, corrugated-board, paper, plastic, food packaging and rubber industries in France and worldwide. It supplies machine manufacturers, distributors and direct users. It manufactures according to a customer's drawing of various knives of different dimensions. Its experience and knowledge enable it to manufacture special tools. In the tissue industry, it produces different machine knives such as log saws blades, perforation and anvil blades, bi-metal blades, dish knives, counter blades, knives blocks, crush and crush perforating knives, packaging knives and slitters.



B570

B290

FIREFLY AB

Firefly is the world's leading provider of fire prevention systems for the tissue industry. Firefly Tissue Solutions® optimises safety in tissue mills with a unique range of products, designed to protect the tissue machine and the converting process from damages. It provides designed systems adapted to each process with detectors that indicate hot particles, sparks and flames, combined with water mist, water spray extinguishing as well as other suppression methods, such as CO2. With its solutions, each tissue mill can be effectively protected against costly fires and dust explosions.



C100

FLEXLINK

Flexlink offers production logistics system for the paper converting industry based on its patented dynamic flow concept. Combining 30 years of experience in turn-key and engineering project, with its standard range of products of conveyor systems, elevators, manipulation equipment, high capacity combiners, diverters and balancers and states of the art controls and data collection system, makes it a reliable partner for paper converting investments. Flexlink's equipment and systems are well proven to handle tissue roll, cores, packs, bundles and cases. Also including napkins, hankies, facial tissue, wipes, diapers and similar non-woven hygiene products.

C450

FOCKE & CO. GMBH & CO. KG

With more than 16,000 machines delivered to 70 countries and more than 50 years of experience, FOCKE & Co is one of the leading manufacturers of packaging machines worldwide. FOCKE & CO. (GmbH & Co. KG) was founded in 1955 as a family-owned company, headquartered in Verden (Germany). The general packaging division is located in Barsel (Germany). The core product range of the general packaging division includes: • side-load coaser packer • tray/wrap-around packer • highly flexible packer (HFP) • stacker and bagger • bundler • palletiser with/without integrated stretcher. Whether for tissue of hygiene products, FOCKE & CO. manufactures packaging solutions according to the customer's individual requirements.



F100

GLOBAL LINK AND SUPPLIES

Global Link & Supplies is an International supplier of tissue paper, MG paper, core stock, log saw blades, waste paper and pulp. With 40+ years experience in the industry, it understands the needs of the converter. With its team of specialists it can meet goals of pricing, quality and delivery to any destination in the world. Items include: tissue paper; virgin and recycled; 15 gsm-37 gsm, core stock; natural kraft - grey - white by 165gsm to 300gsm waste paper; SOP, CBS, MWL, SWL, pulp; NBSK.



B350

HEINO ILLSEMANN GMBH**E500**

It offers tailored foil wrapping machines for napkins, facial tissues, handkerchiefs with a combination of mechanical or servo-controlled drives up to a fully servo controlled foil wrapping machine. Its comprehensive range of wrapping machines offers speeds from 30 to 120 cycles/min. Package heights from 12 to 160mm can be processed. Its foil wrapping machines are known for quick format changes, ease of operation, reliability and excellent packaging quality. Its range of foil wrapping machines is complemented by a wide range of case packers. Either for upright or flat lying napkin packs in various sizes

**HERGEN S/A PAPER MACHINERY E550**

Hergen is a traditional Brazilian company with 35 years of experience in the manufacture of paper machinery in the tissue, board and special papers markets. In is especially prevalent in the tissue market where it manufactures and/or updates complete machines and parts or equipment such as: crescent former machines up to 2000 m/min, headboxes, ribbed and plain Yankee Dryers up to 16', monosystem and duosystem Hoods, reels, rewinders, rolls and pre-engineering services. The company has two mills located in the same city in South Brazil and has clients in North, South and Central America, Asia and Europe.

**HINNLI CO., LTD****D550**

Hinnli Co., Ltd., is located in Taiwan and has become the leading manufacturer, exporter, turnkey project provider and system integrator focusing in paper converting, industrial machineries. In addition to single-unit machines and relevant components and parts, the company also specialises in the supply of whole-plant projects to customers. It provides extensive experiences and knowledge by supplying the highest quality of machineries. The company achieved an outstanding position in the market by fully understanding the importance of achieving consumer satisfaction. Hinnli Co., Ltd. strives to provide convenient condition and opportunities for the success of its clients with the best machineries.

**HOBEMA MASCHINENFABRIK HERMANN H. RATHS GMBH & CO. KG E90**

As a specialist in converting machines, HOBEMA offers high-performance machines with enormous production speeds; in a high-quality standard solution or a highly specialized individual solution, equal to the highest expectations in perfection and precision. HOBEMA has gained technical expertise unique throughout the world, which stands each and every customer,

both at home and abroad. HOBEMA always concentrates on providing the highest quality construction and workmanship with a focus on flexible application of the machines. Thanks to our innovative, specially designed fast change systems, customers have the flexibility to individually adjust the machine for various tasks on short notice. HOBEMA has, succeeded in significantly reducing times for changeover and down times to minimize operating costs. What we stand for worldwide: HOBEMA Paper Converting Machines; high-performance napkin machines; sheeters; nonwoven folding machines; handkerchief machines and C-fold towel machines.

IBERCUTTING S.L**G80**

Spare parts for tissue converting machinery, new and used machinery.

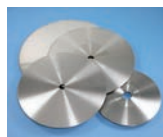
ICM MAKINE VE MÜHENDISLIK LTD. STI. E300

ICM creates innovative machinery solutions for tissue converters. Located in Turkey, its skilled designers and engineers build machinery to client specifications, plan and execute manufacturing strategies, and maintain and improve machinery. Its company makes spare parts and follows sales with maintenance and technical support.

This year ICM is launching a one-side frameless napkin printing machine into the market. The mount-free printing unit allows for fast job changes integrated with sleeve technology. Visit the company to learn about its folders, re-winders, packers, and its entire line of tissue-converting machines.

**IKS KLINGELNBERG GMBH C600**

The name IKS Klingelberg stands for a global operating group of companies with utmost competence in production of machine knives and tools. Continuous research in long wearing materials development, automated production processes and decades of experience have made IKS Klingelberg a global leader among the highest-skilled industrial knife specialists. For the tissue industry the company supplies log saw blades, lubrication system, lubricant, grinding stones, perforation and anvil blades, packaging blades and slitters. Additionally it offers technical seminars and best practices.

**INDUSTRIA CARTARIA PIERETTI SPA D100**

Established in 1924 and now a leader in recycled coreboard for tissue rolls, industria cartaria Pieretti (icP) is headquartered in Lucca. Its strength is its readiness and customers' satisfaction is its main asset. The company produces paper for many other industrial



applications including tubes, corrugated board, cells and edge-corners. Its core business is helped with an R&D department, CoreLab, which supports the innovation process in the tissue field. icP has a global revenue of more than €50m and more than a hundred staff. It exports board all over the world in 65 countries.

INDUSTRIE CARTARIE TRONCHETTI C200

ICT (INDUSTRIE CARTARIE TRONCHETTI) is a manufacturer and converter of tissue consumer disposable products such as toilet rolls, kitchen towels, table napkins and pocket handkerchiefs. The company's brand "Foxy" launched in 1982 has grown consistently and is one of the best known brands. ICT has a long standing tradition in serving the business to business segment of the market with a wide variety of grades making it today a renowned supplier of tissue parent reels to the industry based on philosophy of partnership and long term commitments.

INFINITY MACHINE ENGINEERING CORP C350

Infinity Machine and Engineering is a manufacturer of high performance packaging equipment for the tissue and related converting industries. It also specialise in total project management, EPC engineering/construction services, and plant automation design. It applies the latest mechanical and electrical technology and its customers are ensured the best in long term operational efficiency.

INTERNATIONAL KNIFE AND SAW, INC (IKS) C340

International Knife and Saw, Inc is an American owned company manufacturing the world's finest log, saw and perforator blades from its 110,000 sq ft facility located in Florence, South Carolina. Its portfolio of products for tissue and paper converting include log, saws, perforator blades, tissue bands, slitter knives, core saws, wrapper knives, fly and bed cut off knives, lubrication spray delivery systems, lubricants, CBN grinding wheels, technical service and operator training. Manufacturing and distribution centers are also located in Mexico, Canada, Spain and Korea.

ISRA PARSYTEC GMBH C550

ISRA VISION PARSYTEC will present the newest IntelliCam, the web break monitoring system technology that leads to higher quality and increased output of tissue production. By combining traditional web inspection and monitoring systems with the latest available technologies, it monitors production and checks for quality issues and machine malfunctions. The concept ensures best available image quality under every environmental condition, based on compact stainless steel ruggedised housing; hosting camera, illumination and processing units all in one. The integrated



embedded processor provides complete image analysis and long video sequence buffering. Strong flashing LED lights are used in order to illuminate even hard to see paper machine areas. It is equipped with state-of-the-art cameras providing fast acquisition rates and the highest sensitivity and resolution currently available.

JACOB WHITE (PACKAGING) LTD A400

With 100 years of experience, Jacob White is recognised by many as the world's largest independent manufacture of packaging machinery for the tissue industry. All cartoners for the tissue industry are manufactured in the UK. Manual/semi automatic and fully automatic are variable speed and run a large size range of clip/cartons. It includes a standard facial tissue/mansize and boutique cartons. Its new CP-400 case packer runs both pre-glued and open skillet type of case, with various carton orientation and collation. Machines supplied to independent and multinational tissue manufacturers throughout the world. Jacob White, your tissue machine supplier.

JAEGER GMBH A600

On-site service for Yankee/MG cylinder; grinding, metallisation, all mechanical services to include condensate removal systems and doctor system, diagnostic services to include profile and thermography, balancing, safety inspections and troubleshooting

JBC GLOBAL SUPPLY CHAIN LIMITED F330

JBC Global Supply Chain Limited is an independent logistics service provider offering a complete range of transformation and supply chain service to the paper industry. It has the ability to meet the following demanding market requirements: Freight management and consultancy

- Project handling
- Door to door international transformation
- End to end supply chain solutions
- Value-added services. www.jbcglobal.com

JEDSON ENGINEERING INC D600

Established in 1984, Jedson is a full service engineering, procurement and construction management company specialising in the design of highly efficient tissue towel manufacturing facilities; as well as process and utility improvement projects. Jedson has engineered five new tissue machines in the last seven years and routinely executes key projects in pulp processing and converting. Jedson headquarters is located in Cincinnati, Ohio, with four additional offices throughout the United States, and an international location in Yanbu, Saudi Arabia. Its mission: to provide superior engineering solutions safety to its customers with emphasis on reliability and quality. Stop by booth D600 today.

JOH. CLOUTH GMBH & CO. KG E600

Clouth-Sprenger supplies the latest technology in ceramic creping



blades for use with all tissue grades providing the ideal cost:performance ratio of any advanced ceramic creping blade. Ceradia creping blades are a component in the highest specification tissue products, addressing traditional concerns around creping blade durability and effective blade lifetime whilst enabling the finished product to achieve outstanding bulk and softness qualities. The experienced Clouth-Sprenger team of industry professionals ensures that ceramic creping blade products are specified appropriately to the tissue maker's grade specific requirements. Clouth-Sprenger: Raising your Quality; Meeting your Expectations to Exceed Your Customer's Expectations®.

KADANT LAMORT E340

KADANT is a global leader in fibre processing, **KADANT** AN ACCENT ON INNOVATION doctoring, water management, and steam drying systems. The company's latest product and technology developments help improve fibre yield and fibre processing efficiency, reduce energy consumption, and decrease freshwater use. Recent product innovations for fibre processing include the Helisoft™ turbine, Compact Stock Preparation System, and FibreWall™ screen cylinder and are designed to provide tissue makers with reduced fibre losses, less energy use, and improved stickies removal. KADANT's modern creping doctor systems along with its new Yankee Dryer Cleaner and suction pressure roll dewatering technology have been shown to increase runnability and maximise uptime.

KAPP-CHEMIE GMBH & CO. KG C500

Founded in 1970, Kapp-Chemie is a medium-sized independent company. It employs 100 staff to develop, produce and distribute special products for the paper and textile industries. Paper activities are focused on tissue converting. KAPPFLEX flexographic printing inks and KAPPASIL glues including coloured laminating glues are highly esteemed by the European tissue industry. Modular lotion systems and special chemicals for tissue manufacturing complete the product range.

KELLOGG BROWN & ROOT LLC F310

KBR leverages technical knowledge and global capabilities gained from more than 30 years as a leader in pulp and paper engineering, maintenance and construction. Its team works to provide efficient and innovative solutions in delivering exceptional quality in both international and domestic pulp and paper markets. Its project experience includes working with one of North America's largest paper producers to provide engineering, design and procurement for its paper machine upgrades and successful construction of its new paper facilities to include more than 345,000 construction work-hours. Its in-depth resources can assist with any part of pulp and paper facility operation, from efficiency studies to environmental permitting to commissioning. Its vast experience in industrial design and construction include pulp mills, paper

converting, machine upgrades, recycled fibre and boiler rebuild and repair.

KEMIRA OY D500

Kemira is a global water chemistry company that is focused on serving customers in water-intensive industries. The company offers water quality and quantity management that improves customers' energy, water, and raw material efficiency. It supports its customers in achieving long term profitable operations. Kemira supplies chemicals on time and cost effectively, supported by process optimisation services, expert advice and proprietary industry-proven tools. Kemira's overall emphasis will be the ability to provide a comprehensive product line to the tissue market and focus on the three key cornerstones as a valued supplier: grade specific focus, process optimisation and information management.



LANGENPACK G150

For over 55 years, Langen Packaging Group has supplied reliable and robust packaging machinery and systems for cartoning, case packing and palletising. Its customers include most of the household names in the tissue, consumer products, food and personal care sectors. They buy the company's equipment because it works – and they keep coming back because it works well.

LANTIER, S.A. F250

Lantier develops, designs, manufactures, installs and services equipments for the paper industry such as: creping doctors, skinning doctors, cleaning doctors and other doctors in general, ceping-holders and blade-holders in general; showers for wire/felt cleaning and lubrication; one-nozzle-transversing showers; tail and edge trip cutters; steam boxes.



LYISH ENGINEERING LTD. E50

Manufacturers of converting machinery for the tissue industry, Log Cutters, Rewinders, Laminated toilet roll lines, Napkin machines and others.

M. TORRES DISEÑOS INDUSTRIALES S.A.U B350

Industrial Group MTorres, headquartered in Pamplona, Spain, also has offices in Santa Ana (CA), Germany and Shanghai. The Group has long been known in the converting industry for its highly reliable and durable products. In operation since 1976 with more than 700 customers and thousands of machines worldwide, MTorres specialises in splicers, roll stands and paper roll transport systems for all industry sectors that involve web handling such as tissue, corrugated, flexible packaging and liquid packaging. Making good use of the know-how accumulated in the paper industry,

MTorres has also developed a complete range of Automatic Splice Unwinds.

MAFLEX S.R.L. G250

Founded in Lucca in 1997, Maflex produces machineries for tissue paper converting, designing and building complete lines, both semi-automatic and fully automatic, for any kind of roll: unwinders, printing units, embossers, laminators, rewinders, tail sealers, log saws. Its solutions are oriented to medium/small converters always keeping a focus on the specific needs of each customer. An after sales dedicated department makes each project successful over years, thanks to skilled service technicians and available spare parts for all kind of machineries. Maflex will present its new fully automatic line for toilet/industrial rolls. At its heart is the rewinder Hermes, conceived to achieve maximum flexibility and energy efficiency in production.



MARE UK LTD A300

Mare are primary producers and suppliers of core tissue and towel product line chemistries including wet strength, dry strength, Yankee coating and release, softeners and debonders and lotions, as well as key process chemistries. With sales and technical personnel in all regions in EMEA, it can supply and manage your chemical requirements in line with your critical business needs and objectives. Visit stand A300 where one of its tissue experts will be pleased to welcome you and discuss how Mare can add value to your business through applied technical innovation and excellent cost in use.

MARIO COTTA® F370

MARIO COTTA®, a subsidiary of ZINCOMETAL S.p.A. Gruppo Zincometal S.p.A. / Zincometal Group, has over 80 years experience in slitting flexible materials. Its wide range of items offers its customers the most suitable solution to cut flexible materials as: paper, tissue, board, plastic films, rubber, fiber glass, aluminium, non-oven and laminated materials.



Its production is divided in 3 ranges:

- dished, flat, score knives, mechanical holders and bottom knives
- pneumatic knife holders for shear, score, hot cut, top slitting groups, motorised bottom knives, trim cut groups;
- complete slitting systems with manual, semi-automatic or fully automatic displacement

It supplies its customers with technical assistance and training.

MC PAPER MACHINERY (MASSIMILIANO CORSINI SRL) B200

The company manufactures a complete range of combining slitter rewinders for tissue. Further to rewinders for paper and board, pope reels and other equipment for the paper industry. The acquisition of FOCUS from Futura SpA has completed the range of high performance tissue rewinders. The company has also developed a concept

of winding called No-Stress. This concept starts from using Electromechanical relieving systems, for rider roll and chucks carriages, and arrives to a completely new and innovative way of removing the finished reels from the winding position. It is the most effective system available on the market to keep tissue properties.

MEGALL INDUSTRIES (QINGDAO) LIMITED D60

Manufacturer of tissue paper.

METSO PAPER KARLSTAD AB D250

Metso exists to advance tissue making by committing to be the best in the market when it comes to developing unique innovations and providing total solutions that meet, or preferably, exceed market expectations. Its accumulation of knowledge and continuous improvement steps have led to the modular design and standardisation of its tissue making lines that are now benchmarks in the industry. Metso's modular approach covers our three leading-edge tissue lines: Advantage™ DCT® Technology, Advantage™ NTT® Technology and Advantage™ ThruAir® TAD Technology.



MICROLINE SRL F60

MICROLINE is a manufacturer of automatic machinery: wrappers, bundlers, conveyors, case packers and palletisers for the tissue industry, such as AfH rolls and folded products (napkins, tissues, facial tissue in box, handtowel or toilet interfolded products). Wrapper mod: AL 80 for AfH rolls, able to handle single, double or triple collations, using centerfolded reel film (without trim of film), with (glueless) label insertion inside the package or with print centring film system. Bundler mod: flow wrap 1,000 for AfH rolls. It makes the production of the entire range of sizes of today's tissue series possible using just one system.



MULTIPACK SRL F180

Multipack has been active in different sectors since the seventies and is ISO 9001 certified. The company has experience in high quality design of end-line automatic packaging machines. In the tissue business, Multipack can meet the most various productive needs in terms of dimension and speed. The NK range of machines can pack paper napkins, paper towels, paper towels, paper handkerchiefs, paper place-mats up to 90packs/minute with NK90 and the latest Tekna.

NALCO COMPANY C340

Nalco's mechanical, operational and chemical approach impacts all aspects of tissue making, from raw materials to finished product



quality. Nalco offers a comprehensive range of process control and functional solutions, including Yankee coating, dry strength aids, softeners, and debonders. Combining innovative, sustainable solutions and industry expertise, Nalco helps customers achieve savings in fibre, water and energy, and improved production and sheet quality, while reducing environmental impact. Nalco is an Ecolab company. Ecolab Inc. is on the forefront of water, hygiene and energy technologies and services, providing and protecting clean water, safe food, abundant energy and healthy environments globally.

NANNING ELITE TISSUE CONVERTING MACHINERY MANUFACTURE CO., LTD. C370

Nanning Elite Tissue Converting Machinery Manufacture Co., Ltd. is located in Nanning, Guangxi province. Elite was built in 2002 and specialised in the production of tissue converting and tissue-making equipment. Now it has Nanning tissue converting machinery factory and one papermaking factory in Sichuan Province. The main products in Nanning factory are facial tissue/V fold hand towel machine with lamination, N fold/C fold/M fold hand towel machine, high speed napkin paper machine, paper handkerchief machine, toilet roll/kitchen paper machine, industrial roll machine, and other matched equipment such as jumbo roll slitting machines and packaging machines. Some of its products have achieved CE authentication. Elite has earned a good reputation at home and abroad.



NCR BIOCHEMICAL B500

NCR Biochemical is a company specialised in the production and application of a wide range of process chemicals for paper production and water treatments. It focuses its attention on the Yankee cylinder, offering a very new and reliable line of coating products with a technology that allows the papermaker to avoid the bottle neck located in this area of the machine. It said the innovative coating programmes it proposes guarantee production records and profit to its customers. NCR Biochemical: the green innovative chemistry to treat the Yankee cylinder and the whole tissue process.



NOVIMPIANTI DRYING TECHNOLOGY SRL F160

Novimpianti Drying Technology Srl is an engineering and manufacturing company located in Lucca, Italy, specialising in paper, board and tissue drying, ventilation and environmentally friendly technology solutions. Its main products are: Yankee Hoods up to 650°C operating blowing air temperature, steam generation by Yankee hood exhaust, closed hoods for dryer sections, Yankee head savers, heat recovery units, stabilisation and pocket ventilation, steam and condensate systems for tissue



and paper machines for corrugators, dust removal systems for tissue machines and rewinders, mist removal systems, building heating and ventilation, complete boiler houses, cogeneration with gas turbine exhaust, auxiliary systems, steam box, survey for process optimisation and energy saving, diagnostic services, maintenance and spare parts, and component supply.

NUQUL GROUP

D130

Nuqul Tissue (NT) belongs to Jordan's leading industrial conglomerate, Nuqul Group. Nuqul Tissue operates the largest tissue machines in the MENA region supplied with state-of-the-art technologies in the field of tissue industry. With a total capacity of 156,000 tonnes per year, NT produces: toilet paper, napkin, kitchen towel, wet strength and C-Fold and developed its production line to include low basis weight grades, niche products such as WetPro, & touch quality, in addition to large diameter paper rolls.



O.M.C. COLLAREDA SRL

F200

O.M.C. Collareda is a leading international company designing, manufacturing, assembling and commissioning equipment for municipal and industrial water treatment. Production concerns dissolved air floatation units (DELTA FLOAT and TIGER FLOAT), continuous self cleaning sand filters OMEGA FILTER, drum filters GAMMA FILTER, fractioning filters SIGMA FILTER, disc filters-thickeners DENSIDISC and Biological Plants (A.S.T. and M.B.B.R.).

New technology in its programme is the MICROFILTER for fine filtration of the water and removal of almost all the contained suspended solids. O.M.C. Collareda can develop any engineering project in a specific field and delivers "turn key" plants and makes analyses to improve existing water cycles.

OCME SRL

E100

Product range: robotic palletising system for tissue, loose packs, bundles and folded products; transports for packs and cases; transport for mother reels and pallets by laser automated guided vehicles (AGV); automatic warehousing by automated guided vehicles (AGV). Robot palletising systems with complete layer gripper for a correct pallet load and safe product handling. The layer gripper (OCME patent) sets the standard in layer tightness and the last development includes blunder palletiser integration thanks to a patented device offering rationalisation of the personnel needs, reduction of the changeover time, rationalisation of the final part of the production line and reduction of the occupied surface.

OMET SRL

D200

OMET is a leading manufacturer of a complete range of paper converting machines for the high production of neutral and printed napkins in paper, tissue



and non-woven materials and paper towels of high quality, in line from roll to finished product. This includes the TV 841 machine which allows a production speed up to 1,000 meters per minute, the TV 503 (modular folding machine for napkins), TV 505 (completely automatic machine for disposable products) and AS (towels machine). OMET is also a world leader in the manufacture of narrow-web flexographic printing presses for labels, folding carton and flexible packaging.

OPTIMA FILLING AND PACKAGING MACHINES GMBH

B100

Packaging of paper hygiene products has a name: Optima Nonwovens.



The company stands for innovation in the sectors of home, infant and personal care and end-of-line automation. Parameters for the outstanding efficiency of the machines from Optima's nonwovens division includes an impressive output and excellent performance. Additional benefits consist of machine flexibility and long-term operational reliability.

ORADOC SRL

D80

Oradoc is your partner for all doctoring problems. The Italian company has 25 years of experience in the design and production of any type of doctors. Its product range includes rigid and flexible doctors for all purposes. ORADOC also specialises in vibrations control, mainly on the Yankee machine.

ORIENT PAPER & INDUSTRIES LIMITED

A500

Orient Paper and Industries Ltd is an integrated pulp and paper mill in India. The company has been in the paper manufacturing business for the last seven decades and it is ISO 14001 certified. Orient Paper manufactures tissue and uncoated wood-free papers, and it is capable of handling bulk exports enquiries for tissue jumbo reels and writing & printing papers.

PANIKER, SL

E590

During the past 90 years, PANIKER SL has been dedicated to manufacturing quality-assured adhesives. Its success is built on a commitment to innovation and developing customised solutions to meet its customer's requirements. Its production facilities are equipped with the latest technology, allowing it to deliver large orders within 48 hours – a truly exceptional service. Its comprehensive range for the tissue market includes adhesives for the following applications: tube winding, pick up, lamination, and tail tie.

PAUL WEGNER GMBH & CO KG

C650

The third generation family-owned German manufacturer of doctor, cooler and creping blades for the paper industry.

PETROFER CHEMIE H.R FISCHER GMBH + CO. KG

D90

Petrofer is dedicated to solutions in the manufacturing of tissue. Better crepe control is possible with its unique range of cylinder coating products COTAC and RELEASE AGENT. This product line is supplemented by deformers, cleaners and softeners. All products are BfR approved. Its objective: the control of the creping process. The result is a softer tissue, the control bulk and stretch and a more consistent profile resulting in a cost effective operation. Its service team provides technical support and training on all product aspects.

PLASTYLENIA SPA

E420

Plastylenia is specialised in the printing of flexible packaging film for tissue products, in polyethylene and polypropylene, printing up to 10 colours with flexographic printing process. Plastylenia is equipped with six printing machines and has an internal graphic studio for printing plates engraving. The company is situated in a very important industrial district near Florence.

PMT ITALIA SPA

D340

PMT are a global supplier of engineering, manufacturing and services for paper machines producing all kinds of paper: graphic, packaging, tissue and specialties. The PMT products are known for their technological level and for their reliability. PMT can supply a vast variety of components and systems, from stock preparation to winders, also on a turn-key basis when required. PMT does not only supply complete paper machines but is also specialised in machine rebuilds where they have achieved very good results. PMT's product portfolio also includes Yankee Dryers, MG Cylinders and Dryer Cans.



POLICARTA GI. CO.

B90

Italian-based company since 1988. Used converting and packaging machines from leading European brands. Refurbishing and upgrading of existent machines and technical service on customer's own machines. Brand-new installations:

- automatization of start-stop rewinders (to work without any manual intervention)
- embossing and lamination units for start-stop rewinders
- embossing and lamination units for napkins and handtowels folders
- up to 600 m/min napkins folding-heads
- last-generation flexible servo packaging machines for napkins and folded towels
- last-generation flexible servo casepackers.



PREFERRED PACKAGING ITALY

A350

Preferred Packaging Italy, a world leader in the manufacturing, engineering and design of packaging equipment, provides one of the most complete and comprehensive range of packaging equipment anywhere in the world.

Its strength is the balance it provides

between prices and quality as it reflects market's needs. It has maintained, during design and progression of its products, the flexibility that allows it day by day to conform to customer requirements and to improve its machines. Its range includes: fully automatic packaging continuous motion side sealing, fully automatic packaging intermittent motion side sealing machines, fully automatic L sealer also combined with Tunnel, and Poly bundler machines.

PRODEC EQUIPOS DE ENVASADO S.A.U.

D150

PRODEC was founded in 1976 and is specialised in end-of-line packaging machinery: casepackers and cartonning machines. It handles every kind of product in any type of case. PRODEC'S main principle is to supply added-value machinery to reach the needs of its clients. It provides customised equipment manufactured with state-of-the-art technology, and it is able to provide after-sales service worldwide. An experienced team constantly develops personalised solutions to customers requirements. Its end users belong to the food, tissue, hygiene and tobacco industry and house hold products.

QTS SRL

A380

QTS is an Italian producer of bathroom fixtures, in business since 1979 with over 25 years of experience in the design and styling of articles in plastic and metal for the professional cleaning market. The vast range of QTS products includes over 100 items, with the respective models and versions totaling over 1,500 articles, between paper towel dispensers, soap dispensers, various other dispensers and bath accessories. Its products are exported all over the world and used in communities, hotels, restaurants and offices. Quality, technology and service have always been its strong points and its mission, along with continuing research, testing and innovation ensures its customers the best products available on the market.

RDB ENGRAVING

B270

RDB Engraving is a fast growing company focused mainly in the engraving business. Its wide range of products consists of: embossing groups and stations, calender units. Steel embossing rolls, paper rolls, Anilox rolls, etc. Mainly dedicated to all converters of paper/nonwoven products. R&D and technical assistance available at once. RDB is able to offer the fastest delivery times and attractive quotations.

RIF SPA

D450

Roll service and resurfacing: manufacturing of solid rolls and of complete suction rolls. Supply and/or machining and gun-drilling of spare suction roll shells. Complete reconditioning of swimming rolls and suction rolls. Rubber covering of rolls - auxiliary and functional positions. Service on-site with portable equipment: grinding and metal spraying of Yankee and MG dryers, job on-site; grinding or polishing of can dryers; grinding, grooving and metal

spraying of drums and rewinder Backing rolls.

ROLCO EUROPE BV

B250

Rolco Europe BV is a Dutch full service company specialized in the development, manufacturing and installation of hygienic tissue converting equipment. Further Rolco Europe BV delivers spare parts for all tissue converting machines. The goal of the company is to be a partner in the development, supply and installation of technical applications at the hygienic paper industry. Therefore a number of machines have been developed in the last decennia such as accumulators, tail sealers, core makers, unwind stands for rewinders etc.. Last but not least the special projects in tissue converting industry are a specialty for Rolco, such as a new electrical application for a rewinder line, a variable perforation or a complete re-design for a new product to be launched. Rolco has a high skilled technical team and can be very flexible for you when you need a special application in tissue converting.

S&S CHEMICALS SL

E650

S&S is a young company leading in the global market of chemical specialties in the Paper Industry. The novelties present at Tissue World 2013 are: Air Solver: An LJC for DAF energy savings - The CAT 40: A high efficiency synthetic coagulant as a ATC and sludge dewatering aid - and the BIO PEARLS micro capsules for tissue perfumes and lotions.

SADAS SRL

B230

SADAS is a leader in the electrification and automation of paper mills. The company has a deep know-how in the electrical and software design, automation and commissioning of paper mills machinery and plants, all around the world. This has led people of SADAS to work successfully close to the most important machine manufacturers in the world. It delivers: design, consultancy, commissioning, maintenance services, as well as products and turn-key complete plants. SADAS is able to perform complex revamping projects. Many significant installations make SADAS a leading company in the pulp and paper automation business.

SAUERESSIG GMBH + CO. KG

D430

SAUERESSIG is a worldwide operating system supplier of large branded companies. It produces designs, artworks, reproductions, printing cylinders, embossing rollers, embossing calenders and equipment for finishing processes. SAUERESSIG shows state-of-the-art embossing tools, sleeve and surface technologies and purpose-build engineering for highest customer demands. The company is the one-stop-shop to support and optimise the production of customised products, such as kitchen towels, napkins, paper handkerchiefs, toilet paper and other multi-layer hygienic papers and tissues.

SDF GMBH

E450

SDF Schnitt-Druck-Falz Spezialmaschinen GmbH is a worldwide leading manufacturer of high-quality tissue converting machinery. SDF has gained an excellent reputation for its air laid and nonwoven converting equipment. SDF is offering machines for both large-scale production and small or medium sized orders where quick product changeover is required. Innovative ideas, the usage of latest technologies, quality, flexibility, and excellent service have convinced a rapidly growing number of customers to get optimum return of investment by choosing equipment from SDF. Some 25% of SDF's production is supplied within Germany, and 75% to customers all over the world.

SENNING, CHRISTIAN

VERPACKUNGSMACHINEN GMBH E250

Whenever high capacity, package quality, high efficiency and reliability in the field of hanky folding and wrapping are required, the name SENNING comes to mind. The TCA 450 is distinguished by its outstanding production efficiency and reliable, virtually maintenance-free function: folding machine, single packaging machine, labeller or taper and bundle packaging machine are comprised in a single consistent and completely automated system. Each production section component is optimised for the other, resulting in a perfectly integrated and systematic whole.



SERVITROQUEL

A230

Bomler Vodeholm Precision strip AB is a member of the Voestalpine Grou, a leading steel company with 40,000 employees. Bomler Vodeholm has been a supplier to the pulp and paper industry for many years. It is an expert in the metal industry and a worldwide leading producer of cold rolled precision strip.

SERV-O-TEC GMBH

G100

Serv-o-tec specialise in the manufacture of small and medium size napkin machines for the consumer and away from home market. Its main developments and innovations are: Printing: printing of up to 10 colours, very high quality, and new patented fine adjustment for print units 10 times more precise than all existing print unit adjustments. Automatic starwheel transfer: rotary movements, no beater finger, very good stack quality, packs will be transported with folded edge leading. Book folding head: short changeover time - fold to 1/8 fold (bookfold), high speed bookfolding unit, increases machine flexibility. Speciality machines: customised machines to serve niche market.



SHANGHAI SOONTRU MACHINERY EQUIPMENT CO LTD

A250

Packing machine for toilet tissue, plastic pack facial tissue handkerchief tissue.

SHANGHAI TOMINAGA PACKING MACHINERY CO., LTD

F320

Shanghai Tominaga is the first technology-based manufacturer of auto and semi-auto packaging machinery for the hygiene disposable paper products in China.



Established in early 2004, it specialises in packaging solution for toilet/kitchen roll tissue, facial tissue, sanitary napkin/panty liner, baby/adult diaper and pants and household papers.

With a senior-engineer team of decades' experience in the industry, it has capacity to offer professional packaging solutions, customised packing lines, quick delivery and timely and considerate service. Upholding the principles of casting precision and pursuing quality, it keeps developing and innovating to march forward with the customer hand in hand.

SKF

A530

By combining knowledge and technology, SKF delivers solutions



that increase asset reliability and make more efficient use of limited resources in pulp, paper and tissue mills. Performance-based contracts apply SKF's experience and expertise in bearings, seals, lubrication plus consultancy and reliability services. SKF solutions are fully integrated with maintenance and operations goals and focus on lower costs and increased production. The results speak for themselves. Visit the SKF stand (A530) to learn more and discuss what can be achieved at your mill.

SORGATO SRL

B340

The Sorgato Company designs, builds and installs dust



control systems for converting lines. The efficiency and versatility of its systems are guaranteed by over thirty-five years experience in the dust control sector. Sorgato takes care of all of the project and its own staff look after all the stages of the system ranging from planning and design to construction, to installation and to the final start-up and running.

SPRAYING SYSTEMS CO.

C500

Visit Spraying Systems Co. and learn about



Spraying Systems Co.
Experts in Spray Technology

new ways to apply foamed adhesives, fragrances, lotions and starches on tissue and other hygienic products. In addition visitors will see a wide range of showers and spray nozzles that can help improve quality and minimise waste. Products to ensure fast, thorough chest cleaning will also be on display. Talk with our paper industry experts about your application challenges and our free on-site paper machine inspection programme. The company added that it's the world leader in spray technology providing mills around the world with innovative spray solutions for more than seven decades.

SSI SCHAEFER NOELL GMBH

E430

SSI Schaefer is one of the world's leading suppliers of warehousing and logistics systems. The services offered range from elaborating designs to equipping warehouses with products from the company's own production and implementing comprehensive logistics projects as the general contractor. The grouping of competencies under the umbrella brand name of SSI Schaefer forms the basis for developing inter-branch storage systems geared to market requirements and for finding holistic solutions in the field of intralogistics.

ST MACCHINE SPA

B550

The ST Macchine S.p.A. trademark distinguishes a highly advanced manufacturer of machinery and plants for the paper making. In more than three decades of operations ST Macchine S.p.A. has achieved success, exploiting the competence and skill of its technicians and staff to provide clients with quality and product reliability. These important features, coupled with our rational cost-containment strategies, explain why ST Macchine S.p.A. clients are among the most important operators in our business. Ongoing production improvement, optimisation and rational utilization of leading-edge technology places ST Macchine S.p.A. in a position to manage the entire cycle, from the design stage to the supply and installation of the machinery, offering clients consultancy and after-sales service. Global control of production and after-sales service give our operations the flexibility they need, and form a vital condition for complete client satisfaction.

SVECOM P.E. SRL

F370

Svecom-P.E. designs and manufactures expanding shafts and chucks for all winding and unwinding applications including reel spools, shaft pullers, lifting tables and wrapping machines. Svecom produces all size shafts with multiple external bladders, lugs, leaves, featuring high speed centering ledges, differential shafts, core plugs, mechanical, pneumatic core chucks, safety chucks. Svecom can offer the widest variety of shafts and chucks in the world.

THE DOUBLE E COMPANY

A420

The Double E Company's revolutionary large-diameter expanding reel spool shaft



(HCRS-2000) delivers exceptional value as it is often less expensive yet stronger and stiffer than heavier metal alternatives. The shaft uses a carbon fibre body for its strength, shrouded in aluminum to house the gripping strips. This hybrid design is unique in the marketplace, allowing tissue makers to wind larger rolls without increasing hoisting requirements (because the shaft itself is much lighter) or changing core diameters. Double E will be exhibiting this shaft technology, along with its other products which include lightweight core plugs, Mario Cotta slitting products (knife holders and systems), rollers, and composite cores.

TISSUENET GMBH

G150

Tissuenet GmbH is an experienced and well

reputable company that is representing manufacturers of paper and tissue packing companies. It specialises in the worldwide trade of secondhand tissue converting and packaging machinery.

TISSUE SERVICE CONVERTING SRL

B350

Tissue Service Converting S.r.l. is a young and dynamic



company that specialises in supplying a complete service in consulting and design services, representing some of the most important companies in the fields of converting, wrapping and palletising: Fabio Perini SpA, KPL Packaging SpA, DICO Solving Srl, Pulsar Srl, Tecnoimpianti SaS, Preferred Packaging Srl, MecWrap Srl and Emmecci Elettronica Snc.

TREBOR INC

C430

Trebor is the most dependable source for parent rolls of tissue, towel and napkin for over 40 years. Trebor specialises in a stable, long-term source of supply of tissue to the converter. This includes a record of fast delivery, product quality and competitive pricing. Representatives at Booth C430 will explain Trebor's expertise capitalising on foreign currency exchanges, transportation efficiencies and international customs. Trebor's customer service and business intelligence help make it the largest supplier of tissue in the market.



TRESU GROUP

C400

TRESU Group is a highly specialized company offering flexible, customized



solutions of flexo printing machines and ancillary products for flexo and offset printing. It has over 30 years' expertise in the development and production of engineered solutions for the package print converter, and given that more than 85% of its production is exported, TRESU Group is a global player on the world market. Its program of multi-station flexo printing machines brings added value to virtually all application areas in package converting, including self-adhesive labels, carton, corrugated and solid board and flexible packaging. It also offers a full range of precision-engineered ancillaries and tooling solutions for original equipment manufacturers and end-users in the flexo, gravure and offset markets, including its renowned Chamber Doctor Blade system.

UNGRICHT ROLLER + ENGRAVING TECHNOLOGY

D530

UNGRICHT is a major supplier of embossing rollers worldwide and offers all types of embossing and Anilox rollers including a full service in design development including 3D simulations of the theoretical designs and analysis of the technical properties for the converting process. Customised designs can



be created and engraved at no additional cost. At the show, samples of designs, embossing rollers and 3D simulation will be exhibited and explained. This includes rollers available for: nested, top to top, deco embossing, micro-macro embossing, handkerchiefs, napkins and facial products.

BRAND NEW: UNGRICHT can produce with a recently installed laboratory line laminated samples of toilet paper and kitchen towel.

UNIMATEC PRÄGESYSTEME GMBH

UniMaTec offers embossing machinery and rollers that are used in different types of industry. The UniMaTec products are well-known worldwide for their reliability and optimised production.



F400

UNITED CONVERTING

F340

United Converting was founded in 2004 with the aim to design and build machines and accessories for the tissue converting industry. The opportunity to start a company, able to answer the new enquiries of a globalized market, arose as a result of the increasing demand for machinery and services that can meet the most various production requirements. The target of United Converting is to supply a complete service that goes from the study of a new system to the implementation of existing systems with the insertion of units which, conferred to the finished product, add a greater value.

VALCO MELTON

G230

Valco Melton offers an extensive selection of hot melt and cold glue dispensing equipment. Complete systems are available for a variety of converting applications. Products featured include an automatic dispensing system designed for tissue roll transfer. This system is fully automatic and requires no operator intervention. It's easy to install, self-cleaning and can be designed for any paper machine width. Display will also include equipment for core winding requirements.

VALTEC MACHINERY CO., LTD

E60

VALTEC Machinery Co., Ltd., a combination of Value Technologies, is committed to

provide engineering, machinery, process solutions and EPC to the Pulp and Paper mills with added value in the chain of planning, engineering design, procurement and manufacturing, installation, commissioning and start-up for new or rebuild project.

VANTEK, INC

Vantek, Inc, is a leading source and supplier of used pulp and paper equipment and power plants from America and Europe, to global customers. Vantek offers a wide variety of pulp and paper machines and mills, power generators from 1MW - 85+MW, and specialised services including dismantling, shipping, reinstallation and start-up. VanTek also helps mill owners to liquidate complete idled mills, and is now working with several paper companies to shut down paper machines as well as complete pulp and paper mills from various locations in Canada, USA and Europe.

VILLFORTH SIEBTECHNIK GMBH

C650

This fourth generation family-owned traditional German manufactures farming fabrics, press wires and wires for other purposes. Mainly for the paper industry but also for nonwoven, wood chip board, leather board.

VOITH PAPER HOLDING GMBH & CO. KG

Voith Paper is a pioneering company and partner to the tissue industry, offering new and customised production lines, rebuilds, single products and services. It has a unique process know-how to create holistic product solutions at all stages of the tissue making process. With customer requirements in mind, it develops products that provide economic and ecological advantages. As a leader in innovation it is the competent partner for a complete range of products and services. With global manufacturing and service capabilities, it is dedicated to the ongoing pursuit of advancements to help its customers evolve their process of tissue making. A wide range of services results in superior quality and total cost efficiency for your tissue mill.

C150
VOITH

WEKO WEITMANN & KONRAD GMBH & CO. KG

The WEKO rotor application systems are used throughout the world to enrich tissues and sanitary towels as well as household and toilet rolls. Chemicals, such as balsam, fragrances and softeners, for example, are efficiently and accurately applied by the system. Installation is at the feed end of folding or roller machines. The benefit to the customer includes contact-free, uniform application over the entire fabric width, one-sided or double-sided, precise and continuous adjustment of the application quantity, even at varying machine speeds, as well as the exact reproducible application quantity for repeat orders.



B110

WVT INDUSTRIES NV

WVT Industries NV is a Belgian manufacturer of industrial cleaning chemicals. With its latest innovative products "Waterlube Kitchen Tissue" and "Waterlube Toilet Tissue", the tissue manufacturing companies can save 35-70% in comparison with their current used mineral oils or white oils. Waterlube Kitchen Tissue and Waterlube Toilet Tissue are specifically designed for use during the manufacture of paper tissue and towel products in the paper converting industry. It has a water-based formulation which is designed to replace the use of mineral-oil lubricants which have traditionally been used to avoid the build-up of laminating glues, fibres and dust on the steel embossing and rubber marrying rollers.



D590

ZHEJIANG LINUO VALVE CO. LTD

Linuo professional craftsmanship, rigorous quality control system, and scientific management techniques ensure that each LINUO valve meets its customers' requirements. LINUO operates a 20,000 square meters factory featuring capital-intensive large-scale sophisticated equipment with large output capability. ISO 9001:2000 and Six Sigma management systems are stringently implemented throughout each department and process procedure to have the product under control.



B130

WHAT'S NEW AT TISSUE WORLD 2013 IN BARCELONA?

"OPEN HOUSE" LIVE BROADCAST

Visiting an exhibition is the most time and cost effective way to meet with a wide range of suppliers and see and hear about the latest technologies. But nothing beats seeing equipment operating in a real working environment. Tissue World Barcelona offers you the best of both worlds.

The Tissue World "Open House" Live Broadcast provides the opportunity for visitors in Barcelona to 'virtually' visit a production plant or demonstration line and see exhibitors' machines and equipment being used. The broadband remote connection will allow the visual inspection and demonstration of machines and a two-way dialogue with operators and technicians.

The Live Broadcast will be conducted in a special viewing room on the Tissue World show floor, which will be fully equipped with state-of-the-art audiovisual communications technology. Exhibitors can book the room and create an experience for visitors that is near to that of an actual "Open House" equipment demonstration, but without the time and cost of travel.

FREE EXHIBIT PASSES FOR ALL VISITORS – SALUD!

With the move to Barcelona, registration fees for access to the exhibition floor have been waived for all trade visitors. Use the savings to enjoy an extra bottle of sumptuous Spanish wine when dining with your business colleagues in one of the city's wonderful restaurants in the evening.

LOYALTY AWARDS

Over the years Tissue World has enjoyed the long and loyal support of many exhibiting companies. In Barcelona we will be paying tribute to these companies with a special token of thanks and appreciation. Look out for more details at the show.

SPEAKERS' CORNER

Got something to say about your company? Want to tell it to the Tissue World? Then take advantage of this free platform that allows you to speak directly to an audience of trade show visitors. All you need to do is provide us with an abstract of your presentation for review and we will do the rest. If approved, we will include it in a program of presentations that will be communicated in advance to all exhibitors, visitors and delegates.

"Evolution or Revolution: The Next Steps in Sustainable Tissue Making."

PRELIMINARY CONFERENCE PROGRAM

Please note: Timings subject to change

MONDAY, 18 MARCH 2013. 09:00-17:30

SESSION 1 – MANAGEMENT AND MARKETS AND SUSTAINABILITY: FINDING THE RIGHT BALANCE

OPENING SPEAKER:

Luigi Lazzareschi, CEO, Sofidel Group, Italy

BUSINESS SUCCESS AND SUSTAINABILITY IN HARMONY

Mats Berencrutz, Executive Vice President, SCA, Sweden

THE WWF PERSPECTIVE ON TISSUE, FORESTS AND SUSTAINABILITY

Emmanuelle Neyroumande, Pulp and Paper Strategy Manager, WWF
International, France

A MAJOR RETAILER'S VIEWPOINT ON TISSUE AND SUSTAINABILITY

Florian Schütze, Corporate Social Responsibility Director, Lidl,
Germany

Annemiek Schop, Quality Manager-Non Food, Ahold Europe, The
Netherlands

INTEGRATING SUSTAINABILITY INTO THE CORE OF YOUR BUSINESS TO REDUCE COSTS AND STRENGTHEN YOUR BRANDS

Thomas Bergmark, Senior Advisor & Former Sustainability Manager

IKEA Group, Sweden

TRENDS IN CONSUMER BEHAVIOR: DO THEY BUY SUSTAINABILITY?

Richard Herbert, Global Business Insight and Development Director,
Europanel, UK

THE WORLD SUPPLY/DEMAND OUTLOOK FOR TISSUE PRODUCTS

Esko Uutela, Principal – Tissue, RISI, Germany

COMPARISON OF THE HYGIENE PERFORMANCE OF PAPER TOWELS WITH OTHER HAND DRYING METHODS

Keith Redway, Senior Academic, University of Westminster, UK

EUROFINS-INLAB STUDY RESULTS: WASHROOM SURFACES MICROBIAL CONTAMINATION WITH DIFFERENT HAND DRYER DEVICES

Roberto Berardi, President, European Tissue Symposium, Italy

SESSION 2 – MAKING MORE AND BETTER PAPER WITH LESS RESOURCES

MAKING PREMIUM TISSUE WITH HIGH FLEXIBILITY AND LOWER ENERGY INPUT

Jan Erikson, VP Sales, Metso, Sweden

TISSUELEV – NEW PRESSING TECHNOLOGY FOR HIGH BULK AND LOW COSTS

Thomas Scherb, General Manager – Tissue Innovation, Voith Paper,
Brazil

STEEL YANKEES FOR BETTER MACHINE PERFORMANCE AND INCREASED SAFETY

Elmar Wind, Director, Product Manager & Start-Up, Andritz AG, Austria

RESOURCE EFFICIENCY WITH FOAM FORMING

Erkki Hellén, Key Account Manager, Forest Industry, VTT -
Technical Research Centre of Finland

REDUCING BLADE VIBRATIONS – NEW FINDINGS AND SOLUTIONS

Martin Bauer, Joh Clouth, Germany

IMPROVING THE RUNNABILITY OF TISSUE MACHINES

David Hunkeler, Director, AquaTech, Switzerland

**TISSUE WORLD 2013 –
NETWORKING RECEPTION FOR SPEAKERS AND CONFERENCE DELEGATES**
LA CÚPULA, PALAU NACIONAL (MUSEU NACIONAL D'ART DE CATALUNYA - MNAC)
MONDAY, 18 MARCH 2013 FROM 18:30-20:00

TUESDAY, 19 MARCH 2013. 08:30-17:00

SESSION 3 – THE IMPORTANCE OF FIBRE CHOICES

THE WORLD'S RECOVERED PAPER SUPPLY FOR TISSUE MANUFACTURING

Bill Moore, President, Moore & Associates, USA

A STUDY OF ITALIAN TISSUE PRODUCTS PROPERTIES

Pierre Noé, Customer Service, Fibria Europe, Switzerland

NORDIC PLUS – SOFTNESS AND SUSTAINABILITY

Tuomo Niemi, Raili Koponen and Kari Kovasin, Metsä Fibre Oy, Finland

THE ROLE OF HIGH QUALITY NBSK IN PREMIUM TISSUE PRODUCTS

Wlad Janssen, Tissue Specialist, Canfor Pulp, Canada

SESSION 4 – SOFTNESS: UNDERSTANDING, MEASURING AND ACHIEVING SOFTNESS, HAPTICS, HANDFEEL, PERCEPTION

EVALUATING AND ENHANCING TISSUE SOFTNESS

Tim Patterson, Principal Scientist, Global Technology, Ashland Water Technologies, USA

SOFTNESS SEMINAR

Speaker to be named, Emtec, Germany

TISSUE WITH A DELIGHTFUL SOFTNESS AND FRAGRANCE - AN ECONOMIC STUDY ABOUT LOTIONISING

Robert Mascherpa, Customer Relations Manager, WEKO, Germany

SESSION 5 – ENERGY ANYONE? ENERGY EVERYONE!

ENERGY SAVING: TH (TOP HUMIDITY) YANKEE HOOD RUNNING AT 1000G/KG.

Stefano Pecchia, Novimpianti. Italy

WATER RECOVERY FOR HUMID FLUE GASES IN TISSUE PAPER DRYING INSTALLATIONS

Oscar Lopez, R&D Manager, Brunnschweiler SA, Spain

SESSION 6 – GIVE ME STRENGTH!

NOVEL RETENTION AND STRENGTH PROGRAMS OFFER FLEXIBILITY TO TISSUE PRODUCERS

Frank Siebott, Applications Lead, Ashland Water Technologies, EMEA, UK

TEMPORARY WET STRENGTH RESIN APPLICATION

Dan Glover, Technology Director, Pulp & Paper, Buckman International, USA

SQUEEZING MORE PROFITS OUT OF YOUR SHEET USING NOVEL AND CONVENTIONAL STRENGTH TECHNOLOGIES

Vladimir Grigoriev & Roberto Zulian, Kemira, USA

SESSION 7 – PRINT FOR ADDED VALUE TISSUE

LATEST UPDATE ON TISSUE PRINTING FOR ADDED VALUE

Dave Root, DMR Solutions LLC, USA

**HAPPY HOUR – NETWORKING ON TISSUE WORLD EXHIBITION
EXHIBIT HALL 1 – FROM 17:30-19:00**

WEDNESDAY, 20 MARCH 2013. 08:30-17:00

SESSION 8 – GETTING MORE OUT OF YOUR ENTIRE PROCESS

A CASE STUDY OF RFID WITHIN A TISSUE MILL

Tim Morton, Marketing Manager, Sonoco Alcore, Belgium

ADDED VALUE FOR TISSUEMAKERS VIA EFFICIENT CHLORINE-FREE MICROBE CONTROL PROGRAM

Jaakko Ekman, Research & Development, Kemira, Finland

SUSTAINABILITY: HOW AUTOMATION CAN HELP SAVE THE PLANET

William A Nelson, President, Elettric 80 Inc, USA

PRACTICAL SOLUTIONS TO RECOVER FIBRE, INCREASE YIELD AND IMPROVE QUALITY

Alain Lascar, Applications & Marketing Director, Kadant, France

COST-EFFECTIVE QUALITY MANAGEMENT FOR TISSUE MAKING

Seyhan Nuyan, Director, P&P Applications, Metso Automation, USA

GREEN STEPS TOWARDS SUSTAINABLE DISTRIBUTION SYSTEMS IN TISSUE CONVERTING

Klas Ålander, FlexLink, Sweden

SAFER LUBRICATION WITH A SUSTAINABLE REPLACEMENT FOR MINERAL OIL

Ward Van Thielen, WVT Industries, Belgium

HIGHER EFFICIENCY WITH VERY COMPACT ROBUST SENSORS FOR PROCESS MONITORING AND INSPECTION

Andrea Friedrich, ISRA Vision Parsytec AG, Germany

PRO-ACTIVE CONTROL OF MICROBIAL GROWTH AND REAL-TIME OPTIMIZATION OF BIOCONTROL STRATEGIES

Laura Rice, Nalco, USA

SENSORIZED DIAGNOSTIC PLATFORM FOR CREPING PROCESS

Xabier Echeberria, LANTIER, Spain

THE USE OF POLYURETHANE ROLL COVERS FOR TISSUE PRESSURE ROLL APPLICATIONS

Charles Hunter, Director of Materials Research, Stowe Woodward, USA

THURSDAY, 21 MARCH 2013. 08:30-12:00

SESSION 9 TISSUE WORLD 2013 YANKEE DRYER WORKSHOP

TOOLS AND METHODS TO MAINTAIN AND IMPROVE THE PERFORMANCE OF TISSUE MACHINE PRESS FABRICS

Matt Bryer, Albany International

OPTIMISING THE USE OF PHOSPHATES TO IMPROVE YANKEE COATING AND MACHINE PERFORMANCE

Florent Bourgerolle, BTG

SUMMARY: OPTIMISING YANKEE SURFACE MANAGEMENT

Barry Bartles, Ashland

YANKEE HOOD PROBLEMS AND SOLUTIONS AND METHODS FOR IMPROVED EFFICIENCY

Antoine Hofer, Enerquin

CORRECTING COMMON PROBLEMS WITH YANKEE SURFACES

Manfred Jaeger, Gary Marzullo

PROPERLY MANAGING THE YANKEE CREPING UNIT OPERATION

Sam Archer, Nalco

STEAM SYSTEMS MANAGEMENT AND CONTROL WITH EMPHASIS ON BLOW-THROUGH

Clive Butler, PMT

SPECIAL CONSIDERATIONS FOR OPTIMISING THE LIFE OF YANKEE BEARINGS THROUGH LUBRICATION DESIGN

Philippe Gachet, SKF

HOTELS

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Barcelona Business Pass (BBP) has been appointed as the official accommodation agency for Tissue World 2013 in Barcelona.

BBP has secured a wide range of great accommodation solutions at every price level and is ready to assist you with your bookings in the city of Barcelona.

DON'T MISS THE OPPORTUNITY TO BOOK AT ONE OF THE TISSUE WORLD 2013 HEADQUARTERS HOTELS:

- ❖ **PORTA FIRA SANTOS** (located in front of the FIRA)
- ❖ **MAJESTIC BARCELONA HOTEL** (located in the city center).

You can check the list of hotels available by visiting the Online Booking Website at:
www.tissueworldbarcelona.b-beyond.com

Alternatively, you can send BBP an email tissueworldbarcelona@b-beyond.com and they will be pleased to send you a tailor-made proposal.

VENUE

TISSUE WORLD 2013 IN BARCELONA

MARCH 19-21, 2013 - EXHIBITION

MARCH 18-21, 2013 - CONFERENCE

FIRA BARCELONA – GRAN VIA, HALL 1, SPAIN

Av. Joan Carles I, 64
08908 L'Hospitalet de Llobregat (Barcelona)
Website: www.firabcn.es/en/venue_granvia



REGISTRATION FEES

TO REGISTER, PLEASE GO TO OUR SECURE ONLINE REGISTRATION HERE:

WWW.TISSUEWORLD.COM/WORLD/CONFERENCE-REGISTRATION.PHP

Full Conference Package: Includes access to the exhibition AND to the entire conference (4 days) and the networking reception on Monday, 18 March 2013

Full Conference Package Fee:

Early Bird Fee – Before 18 February 2013: €835

Regular Fee – As of 19 February 2013: €995

TRADE VISITOR ONLY:
Entrance to the exhibition
is free of charge for
tissue industry visitors

Exhibitor Discounted Conference Registration Fee: Allocated to the personnel from contracted exhibitors only and cannot be combined with any other discounts. The Exhibitor Conference Registration Fee is only applicable for the Full Conference Package.

Exhibitor Conference Registration Fee:

Valid up to 18 February 2013: €600/delegate

As of 19 February 2013: €700/ delegate

Group Discount Registration: Also includes access to the exhibition on all days.

To be eligible for the group discount, three (3) or more registrations should be done at the same time. Individuals must work for the same company.

Group discounts are only applicable to a Full Conference Package and cannot be combined with any other discounts.

Group Discounted Fee:

Valid up to 18 February 2013: €795/conference delegate (No group discount available after 18 February 2013)

Single Day Registration: Single Day Registrations include access to the conference sessions of the day for which the delegate registers. The Single Day Registration pass will also give access to the exhibit hall on all three days. Please tick the day you wish to attend:

	Early fee*	Regular fee
Conference Day1 - 18 March 2013 (full day):	€450	€600
Conference Day 2 - 19 March 2013 (full day):	€400	€500
Conference Day 3 - 20 March 2013 (full day):	€400	€500
Conference Day 4 21 March 2013 (half day):	€200	€250

Early Bird Fee applicable up to 18 February 2013

Tissue World in Barcelona is the place to be if you have anything to do with the tissue business. In 2011, around 2,000 tissue makers and converters from 88 countries worldwide were at the show. In addition, the Tissue World Conference drew a crowd of over 340 participants.

TO REGISTER, PLEASE GO TO OUR SECURE ONLINE REGISTRATION HERE:

WWW.TISSUEWORLD.COM/WORLD/CONFERENCE-REGISTRATION.PHP

SUPPORTING MEDIA

Birkner International Paperworld
Cellulosa Bumaga Karton
China Pulp and Paper Industry
Cleaner Magazine
Converter & Cartotecnica
Converter-Flessibili-Carta-Cartone
El Papel

European Cleaning Journal
Industria della Carta
IPW
MeTissue
O'Papel
Pap' Argus
PaperAge

Paper Industry Technical Association (PITA)
Papír a celulóza
Przegląd Papierniczy
Pulp & Paper International
Pulp, Paper and Logistics
Pulp & Paper Technology
Pulp-Paper World



Anilox rollers spend an entire lifecycle in T&T lines leading to potential problems that impact production.

Here, Harper's Bill Poulson gives some recommendations on how care and maintenance should always be top priority

The more that is learned in the area of care and maintenance of Anilox rollers, the less downtime and product loss will occur. Anilox rollers in the tissue industry are used in glue application and lamination processes as well as printing rollers for single colour or four-colour process towelling print lines. Other markets such as party goods and dinner napkins are also printed on tissue. What is unique about this industry is that once the Anilox is installed in press it will spend its entire lifecycle there as the tissue industry uses the same line screens and volumes. This is very different compared to other segments of the flexo industry that may have to change rollers from job to job.

Because the tissue industry's rollers stay in the press, are very large, and the inks and glues usually do not get cleaned out of them thoroughly, they will lose their volume capability for ink or glue transfer due to this plugging process. Cell plugging can be avoided

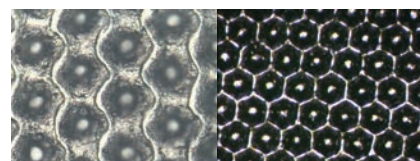
by implementing good manufacturing practices. Once you have identified the problem you are half way to fixing it; if the problem is not identified, this can shut down the print or glue lamination lines.

CARE AND MAINTENANCE

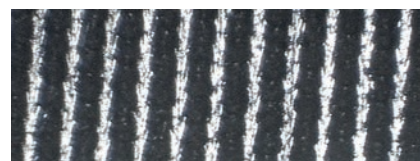
Tracking wear and tear is a very important step as illustrated on the next page. This allows a tissue producer to determine an expense budget as well as giving a snap shot of how the rollers are being handled and cared for weekly. Roller suppliers should come in periodically to perform audits and between that tissue producers should use a qualified handheld microscope to visually check for cell wall wear and ink plugging on a weekly basis.

CLEANING THE ANILOX ROLLS; "CLEAN CELLS"

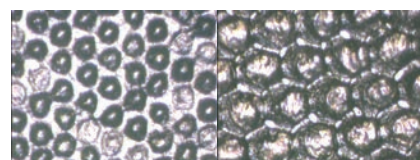
Daily procedures for cleaning are



L-r: 30 degree channel and 60 degree hex



89 XTR or Trihelical



L-r: extremely plugged cells; evenly plugged cells across entire roller

needed. Whether anilox rollers are used for printing ink or running adhesives, they need to be cleaned quickly and thoroughly. Again, this is where the handheld scope comes into play. Personnel should be trained on

the visual inspection of an Anilox or glue roller, and don't just depend on the auto wash systems to get this done. Remove all residual ink and this will avoid the ceramic surface from getting stained and minimise any plugging or corrosion issues. With the proper magnification it's possible to tell if the roll is plugged, and if the bottom of the cell is visible it's clean. If the roll is plugged with ink it will not perform as expected. Auto wash systems should be done with warm water treated with a compatible detergent that will help flush out the cells properly during the wash cycle. Use a detergent that has a safe pH level and also check the roller after the wash cycle to insure it is cleaned thoroughly.

OFFLINE AND ONLINE CLEANING SYSTEMS

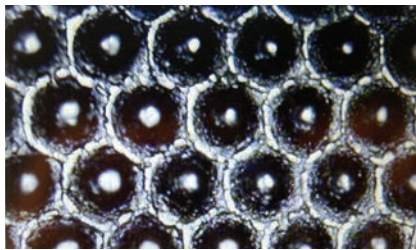
Most T&T facilities can have an outside source come in and clean their rolls on press. One common practice is the baking soda blast which can be attached to the press onsite without taking the roll out of the press. If the rolls plug over time and you cannot get them cleaned by hand, an online and onsite service should be scheduled for once or twice a year. It will pay itself off in product consistency and less quality control issues.

BARRIER COATING

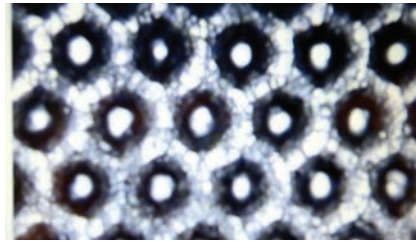
Inks and adhesives in the tissue industry can be acidic or caustic causing the ceramic surface of the roller to decay. These inks are formulated to avoid ink bleed, streaking and other such issues that can complicate ink related handling. To avoid this, make sure that the proper barrier coating is applied to the subsurface of the roller, which is the build-up material under the ceramic.

PRODUCTION ENVIRONMENT (DUSTY)

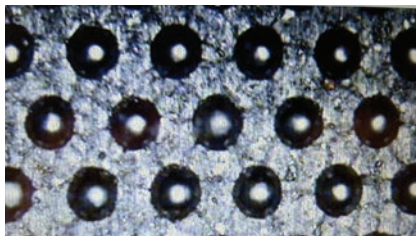
The tissue environment will be dusty. The print surface of the Anilox roller should be protected or covered to limit the amount of dust that will contaminate its surface when not



Anilox wear 1



Anilox wear 2



Anilox wear 3

in use. Once the dust gets into the system it will travel through the ink train or adhesive train spreading the contamination throughout. This can promote rollers to plug cells or have issues printing acceptable product. Dust will cause print quality issues and will flow through the chamber contaminating the ink. Proper filtering needs to be in place to trap the contamination while running. If anilox roller has not been in use, clean it thoroughly before pumping ink or glue to the rollers surface.

CHOOSING THE PROPER INK OR GLUE VOLUME

Standard Anilox volume for T&T lines is 3.5bcm to 5bcm range. This volume range may vary slightly depending on inks, paper or other variables. If you include party napkin in this mix, the volume range will go slightly higher than 5bcm.

Glue applications: In testing for glue applications, the volume ranges will vary from what is used for printing as

pictured. Most manufacturers of T&T will run periodic testing from time to time. Tissue is a very absorbent substrate so if the tissue supplier changes the tissue formula, there may be a need to retest in order to optimise ink or glue volume. When these types of changes occur, banded testing is the way to get the process optimised again.

Glue coat weight amounts are slightly more difficult to calculate than ink. This is a perfect example for running a banded roller. A banded roller is a roller that has multiple bands of line screens and volume as well as different geometries to test so that you get the optimal amount of ink or glue transfer.

"BANDED ROLLER LAYOUT"

A tissue producer may want to try a variety of geometries. Flexography typically uses 60 degree geometry which will work fine, but there are other geometric types that may work in replacement of the 60 degree. Consider speed and chemistry of inks and coatings when choosing geometry. The trihelical or 89 degree geometry on previous page works well with glue but it may allow a coating to sling at speeds above 200meters, so make sure this can accommodate any issues or side effects that certain geometries may show.

After running the banded roller, evaluate the test results and measure the final results to set the parameters needed for day to day operation. If a coating volume for glue needs to span across a variety of tissue weights, then this is the proper way to get there with accuracy. Interpret the final results and choose a volume range that will span across the full range of tissue ply and paper weights that are produced. The final volume selected needs to be at a high enough volume to allow for slight wear and still have acceptable coat weight for glue or colour strength.

Bill Poulson is the northeast technical advisor for HGS, the technical division of Anilox rollers manufacturer Harper Corp. of America.



19-21 March 2013: Exhibition
18-21 March 2013: Conference

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BARCELONA, SPAIN

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