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MAY/JUNE 2015

The independent news provider for the global tissue business

TWM
TISSUE WORLD MAGAZINE

CHILE
In a stable and efficient economy the middle class flexes its muscles

PLUS SPECIAL FEATURES
MARKETISSUES: A look into four dynamic Western European markets
Tissue World Barcelona 2015 show coverage
Technical Theme: Södra and Canfor talk pulp
Retail Focus: The latest global retail trends

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Chile's FPC Tissue gets ready to take on the American market; Kantar Retail's Himanshu Pal talks shopping trends

Quick links

TWM

TISSUE WORLD MAGAZINE

In this issue

www.tissueworldmagazine.com

Cover: PURPLEPRINT Creative

By Tissue World magazine editor **Helen Morris**

An intriguing contrast – an economy on solid ground in a country prone to earthquakes

I don't know if Guillermo Swett, chief executive of Chilean producer FPC Tissue, has any Italian ancestry, but he reminds me of some good Italian friends of mine - the ones who love to say, when some issue or other crops up: "It's no problem... it's no problem."

We are well into our interview at the impressive FPC Tissue plant on the coast of Chile and by now I'm used to his enthusiasm expressed in excellent English.

He is explaining his ambitious business plan – which is no less than to take on the mighty American market with a premium product its consumers don't yet know they need.

That's when he reminds me of my Italian friends.

Top-of-the-range technology will be needed to achieve that. He doesn't actually say the words, but it won't be a problem as he's just about to start up only the second Advantage NTT 200 line in the world to achieve the premium quality he seeks.

And then, without blinking, he mentions that this area is "prone to earthquakes".

That, too, has been taken into account as they have built very strong buildings with deep foundations, and as with much of the organisation and efficiency TWM sees in day-to-day Chilean life, they've done it in record time.

Concepción in particular – where FPC Tissue is based – and also Chile's capital Santiago where SCE Chile (who TWM also visited for this issue) were both severely hit by 2010's 8.8 magnitude earthquake. Yet Chileans have typically created and embraced an iconic drink out of the tragic earthquakes the country has suffered - Terremoto which means earthquake and is made of fortified wine (I liked the use of the word fortified especially after talking to Mr Swett), a couple of dollops of pineapple ice cream and Fernet... travelling around the country in 2015, TWM sees the locals drinking Terremoto on many occasions.

And it's this desire for eating and drinking-out that has led to a boom in the country's restaurant scene and helped make it a regional leader, both economically and increasingly in terms of its tissue sector. A developing middle class, efficiency and increasingly disposable income have meant tissue consumption is regular and stable. Retail tissue is well developed, at per capita consumption of 8.1kg in 2014 (this is only slightly below regional average in Western Europe) while the AfH market recorded close to 8% growth in volume in 2014. CMPC and SCA dominate the market and when combined make Chile the fifth largest producer in Latin America, behind the likes of powerhouses Brazil and Mexico.

Helen Morris

Editor, Tissue World magazine

Every problem is an opportunity.

Tissue World São Paulo!

As this issue kicks off with coverage of the talks from Tissue World Barcelona, TWM would like to offer a warm welcome to all those attending Tissue World São Paulo in May.

We remain dedicated to bringing your business the best local knowledge from the most dynamic tissue markets around the world. Brazil is one of them, so what next for this fast growing giant and its tissue market?

Be in at the start of Tissue World's Latin venture. Help us to share vital business topics tailored to the region's local dynamics, and to do business on a tradeshow floor full of local and regional exhibitors.

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In Tissue World all measures are metric and all dollars ($) are US dollars, unless otherwise stated.

Tissue World Barcelona attracted key industry members from across Europe and beyond. We kick off the show's coverage with a detailed look into four dynamic Western European tissue markets

Bill Burns

Senior consultant, Fisher International

Country Update France

France is the fourth largest producer of Paper and Market Pulp in Western Europe making 10.1 million metric tonnes per year. Towel and Tissue (T&T) represents a little more than 8% of this paper and pulp production. France ranks third largest in the production of T&T products with nearly 900 thousand metric tons annually. Capacity trend for all grades in Western Europe has been flat over the last six years and announced increases/decreases also indicate flat growth for the next three years. T&T capacity growth in France has been on the incline for the six -year look back in time (Figure 1). This means France did not experience the dip in capacity that characterized its regional counterparts in 2012. Since then, the trend has continued upward. However, a lack of announced changes (upgrades, shutdowns, or new machines) over the near term makes it unclear that this trend will continue over the next three years.

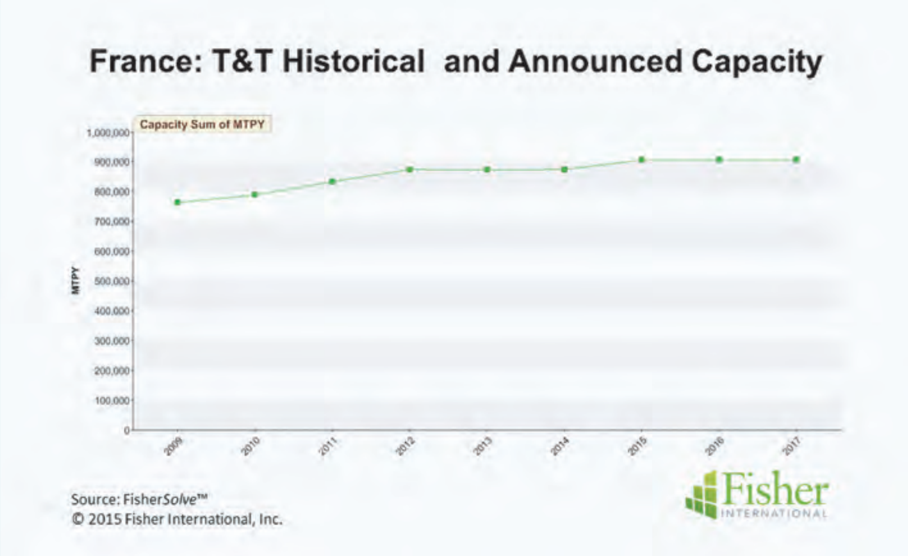
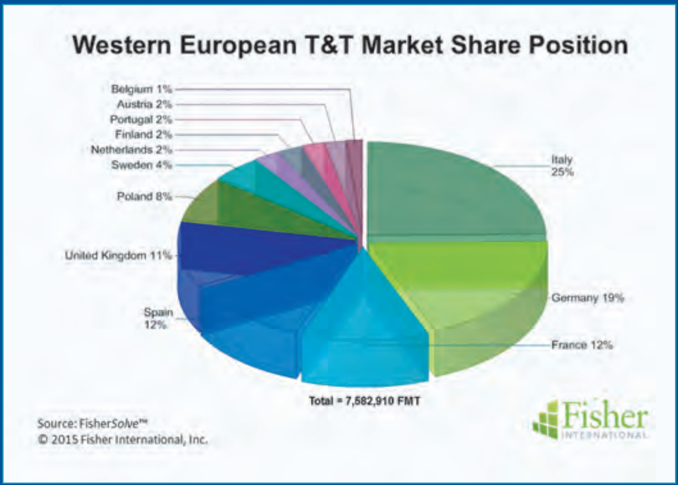


Figure 1

France's T&T market position in Western Europe is moderately strong. At 12% market share, it ranks third largest T&T producer with just less than half the capacity of Italy and in relative parity with Spain (Figure 2). France's solid position may not be totally defensible. Italy and Germany both have substantially larger market shares from which to compete and Germany has a cost advantage (Figure 3).

These two major competitors could represent a formidable challenge depending on mill-to-market proximity and factors like transportation cost from a specific mill might determine the market outlook. The cost disadvantage for France stems from lower fibre cost attributable to higher use of purchased fibre and somewhat higher labour cost.



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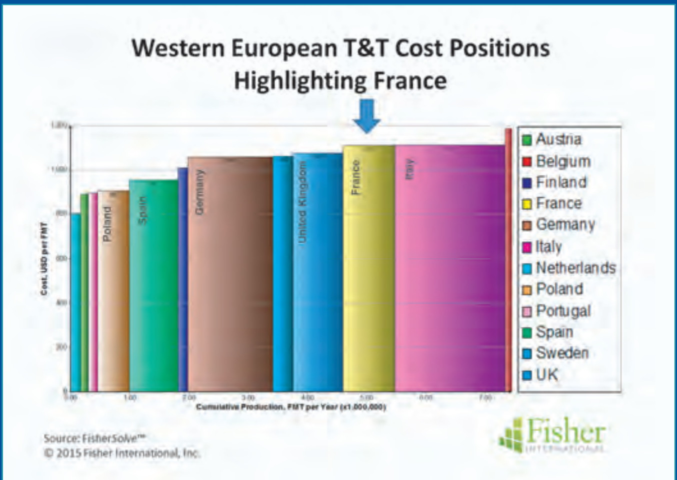


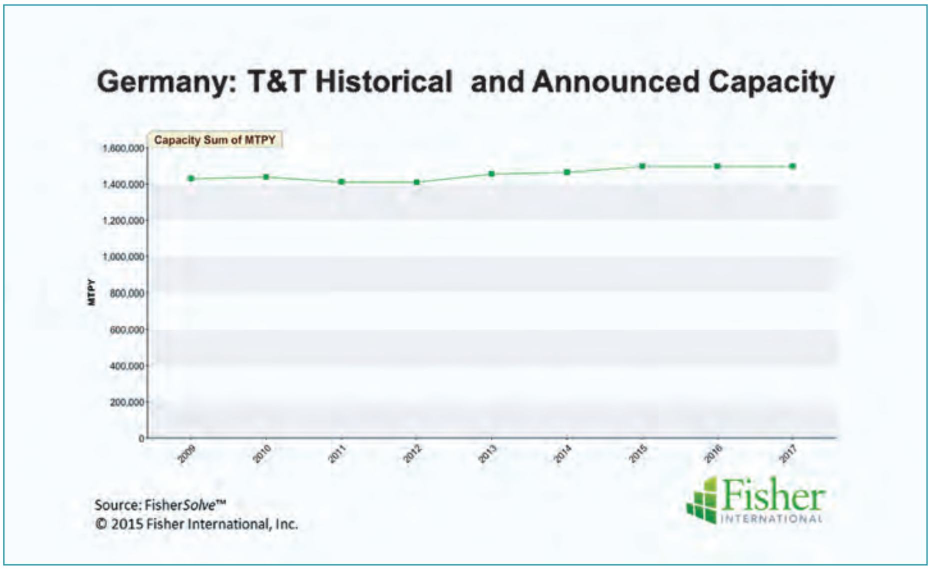
Figure 3

By Fisher International's **Bill Burns**

Country Update Germany

Germany is the largest producer of Paper and Market Pulp in Western Europe making nearly 25 million metric tonnes per year. Germany ranks second in Towel and Tissue (T&T) production with a little less than 1.5 million metric tons or about 6% of the pulp and paper. Capacity for all grades in Western Europe has been trending flat over the past six years and announced increases/decreases also indicate flat growth for the next three years. T&T products showed a slight decline until 2012. Since then the trend has been up but flattening for the projected years through 2017. Germany has been seeing a slow but gradually increasing trend for the past four years (Figure 1). A lack of announced changes (upgrades, shutdowns, or new machines) over the near term suggests steady capacity over the next three years. The nine-year window (2009 – 2017) has a cumulative average growth rate of 0.58%.

Germany's T&T market position in Western Europe is strong. As the second largest T&T producer, it holds a 19% market share (Figure 2). Germany should be in a solid position compared to neighbouring countries, but that may not be a totally defensible stance. The larger producing countries of France and Italy have good market share positions from which to compete (Figure 3) but hold a higher cost position. Poland, on the other hand, could be very competitive with its low cost position and close proximity to German markets. There could be significant competition from mills shipping into specific markets across all four of these countries. Transportation cost could be a factor depending on mill and market location. Things like brand identity and product performance requirements versus delivered quality could also be significant hurdles. At equal performance and distribution cost the cost advantage for Polish mills may be significant.



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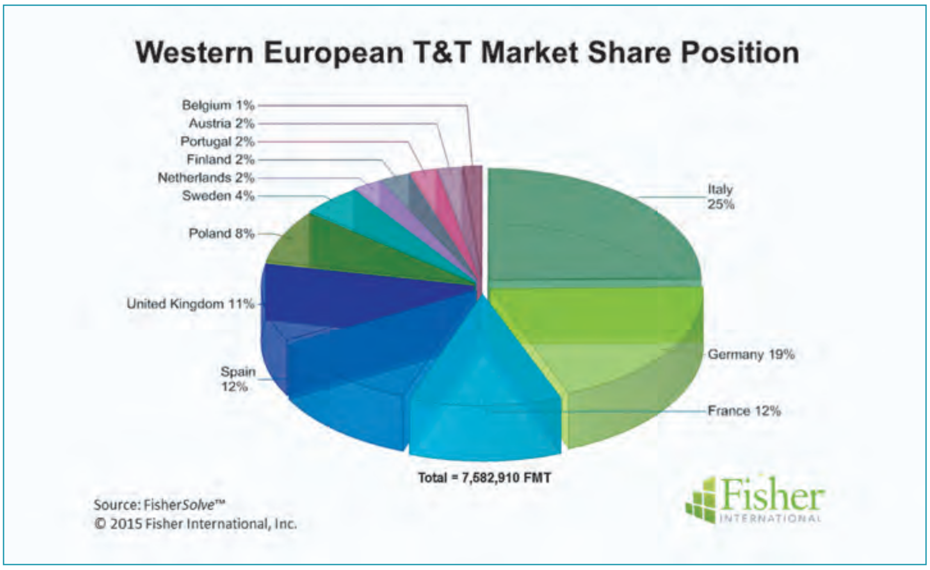

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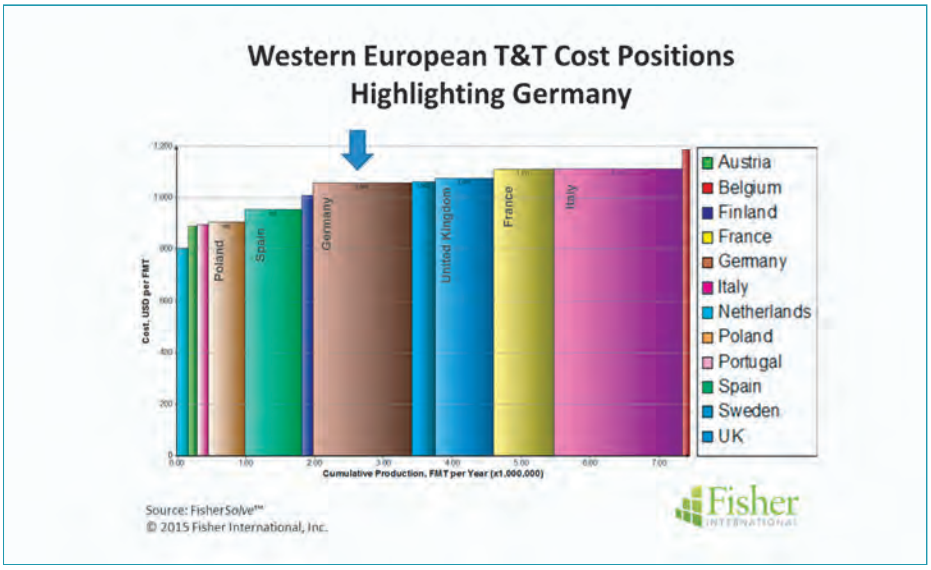
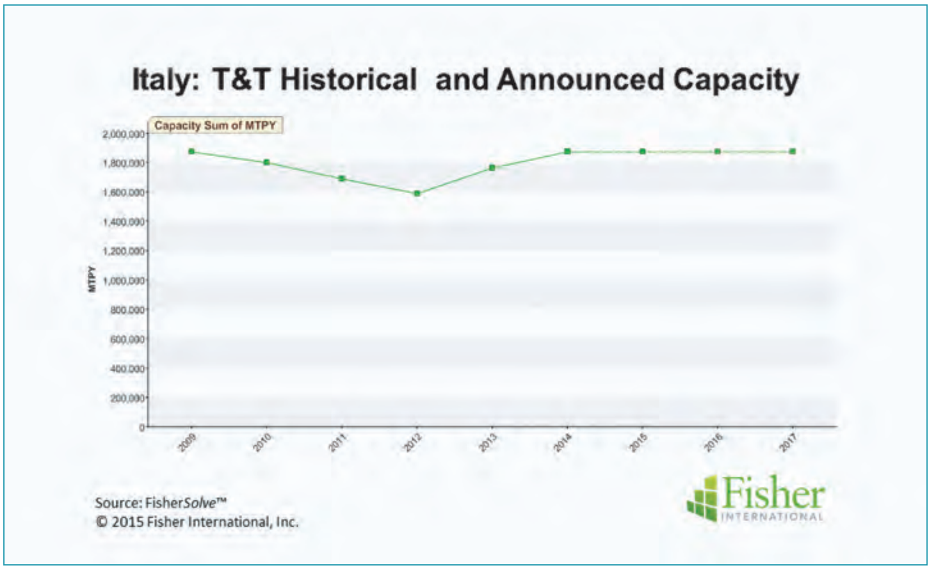


Figure 3

By Fisher International's **Bill Burns**

Country Update Italy



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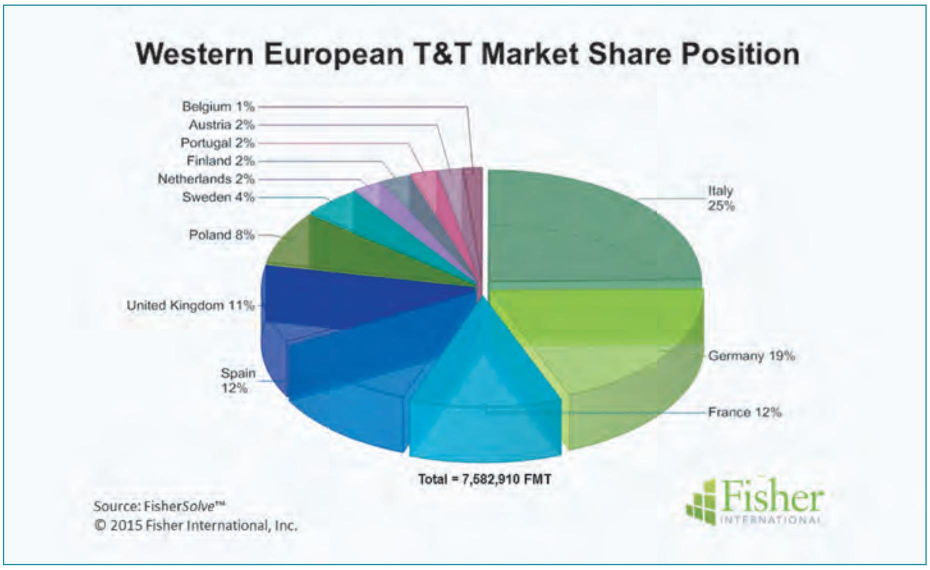

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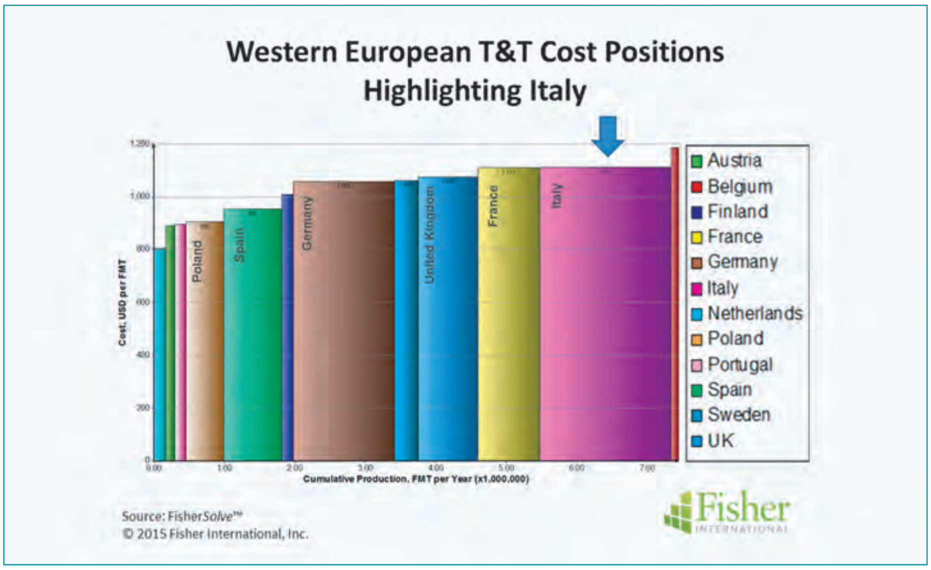


Figure 3

Italy is the fifth largest producer of Paper and Market Pulp in Western Europe making 10.1 million metric tons per year. Towel and Tissue (T&T) represents a little more than 17% of this production capacity. Italy ranks as the biggest producer of T&T products making in excess of 1.8+ million metric tonnes annually. Capacity trend for all grades in Western Europe shows flat growth over the past six years and announced increases/ decreases also indicate flat growth for the next three years.

T&T products were in slight decline until 2012. Since then the trend has been up but flattening in the next three years. Italy also had a declining trend going into 2012 followed by a steady return to previous levels (Figure 1). A lack of announced changes (upgrades, shutdowns, or new machines) over the near term suggests steady capacity over the next three years.

Italy's T&T market position in Western Europe is very strong as the largest T&T producer commanding a 25% market share (Figure 2). Italy should be in a solid position compared to neighbouring countries, but that may not be a totally defensible positon.

France and Germany also have good market share positions from which to compete. These two major competitors are also lower cost than Italy (Figure 3). There could be significant market competition from mills in these countries depending on the transportation cost from the specific mill to market combinations.

The cost disadvantage for Italy stems from an almost complete reliance on purchased pulp where the other two countries are integrating lower cost recycled fibre.

By Fisher International's **Bill Burns**

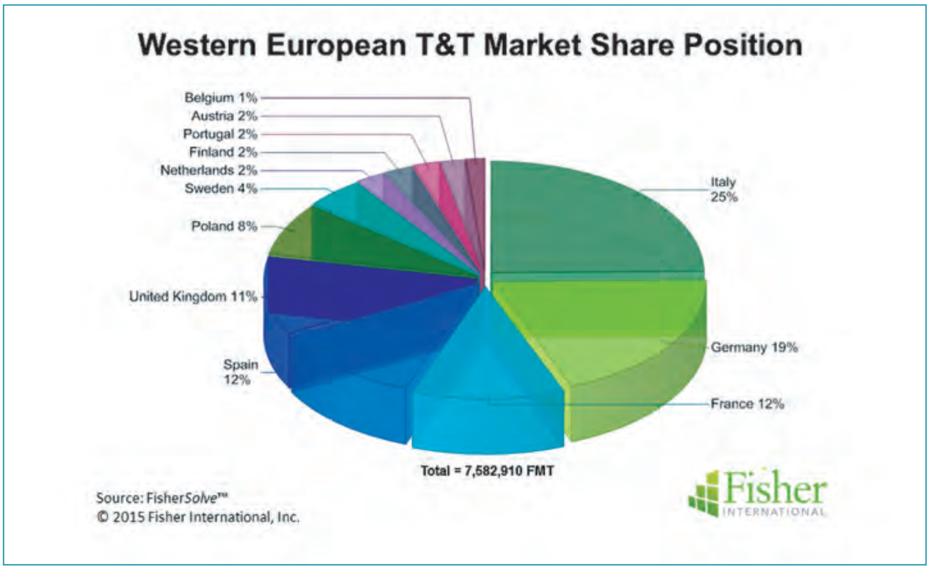
Country Update Poland

Poland is a relatively small player in the production of Paper and Market Pulp in Western Europe, making 4.2 million metric tonnes per year. Towel and Tissue (T&T) represents a healthy 14% of this paper and pulp total production capacity. Consequently, Poland currently ranks sixth in the production of T&T with approximately 600 thousand metric tons annually. Capacity trend for all grades in Western Europe shows flat over the past six years and announced increases/decreases also indicate flat growth for the next three years. In this region, T&T products declined slightly into 2012. Since then the trend has been up but flattening in the next three years. Poland was basically flat going into the 2012 inflection point. Since then, Poland has experienced solid steady growth almost doubling T&T Capacity (Figure 1). Announced expansions suggest the growth pattern will continue, albeit at a slower pace, over the next three years. Poland's T&T market position in Western Europe is not commanding, being the sixth largest T&T producer with an acceptable but relatively weak 8% market share (Figure 2). Poland should be in a solid position in local markets where product recognition and preferences are strong purchase drivers. Outside of these markets there may be vulnerability against the larger producers in close geographic proximity.

Poland's main defense and competitive advantage is a significantly lower cost profile versus nearby higher producing countries (Figure 3). These neighbouring major competitors could be formidable, but for the labour and energy advantages holding down cost in Poland. Significant market competition will likely depend on mill-to-market positions justified by feasible transportation costs from a specific mill to market.

Data for these reports are from FisherSolve™, the pulp and paper industry's premier business intelligence resource. www.fisheri.com. Bill Burns can be contacted at bburns@fisheri.com.

Figure 1



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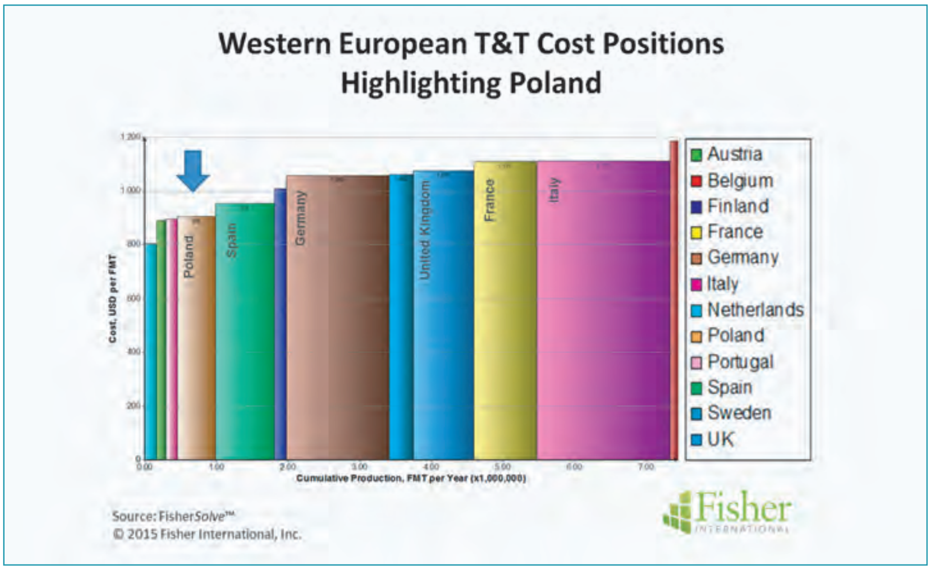


Figure 3

TISSUE WORLD

D BARCELONA

A return to gradual growth as Europe emerges from a prolonged economic struggle and the focus of tissue business shifting from west to east. TWM summarises the expert insights from the three day conference

Tissue World bids a vibrant... but sad farewell to the brilliant Barcelona

The figures speak for themselves... Tissue World Barcelona 2015 attracted no less than 2,589 participants to the industry's most prestigious tradeshow. That number included 1,561 visitors who were drawn from 89 countries from across all continents.

TW Barcelona hosted more than 180 international and regional companies with 712 staff exhibiting the latest technical and innovative developments - making TW the leading showcase for a vibrant industry continually searching to expand its reach and improve its products.

As intensive deal-making went on throughout the three days, some 45 leading industry speakers shared their expertise from the latest research and insights from across the whole supply chain.

Topics included - a recovery in sight for the Eurozone; the gradual return to tissue sales growth; European tissue business focus moving from western to eastern parts of the continent; The European Tissue Symposium's focus on hygiene as a key driver; fibre integration – is it increasing and is it possible to optimise fibre mix and maintain quality; the dramatic increase in dryer chatter marks during creping; how green products will change the behaviour of consumers ... and many others.

SCA, Stratfor and Hawkins Wright kicked off day one's conference sessions while Forum for the Future, American Hygienics Corp and Södra Cell launched day two.

Operational efficiency came under the spotlight with Solenis' Frank Pakinkis, Voith Paper's Marcus Schwier, Canfor Pulp's Paul Watson and Valmet Tissue Mills Business Unit's Johan Björn.

Tissue World Barcelona also marked the launch of the new and complimentary live broadcast via online streaming ... those who couldn't attend the event could log on to view live the start of the conference sessions on day one.

The fantastic city of Barcelona graced the industry with its beauty and impeccable services providing the best possible platform to conduct business in style.

Tissue World's opening night gala dinner marked our sad "Thank you... but farewell." Now, the event expands its reach again with a move to Milan for Tissue World 2017 ... the city-of-choice favoured amongst industry players in TW's survey.

Tissue World Milan 2017 will be held from 28 – 30 March 2017 at MiCo – Milano Congressi.

Read on over the next few pages for a summary of the key talks

Challenges and opportunities in the European tissue industry

Markus Stojan, vice president market and business development for AfH, SCA Hygiene Products, Germany

How the stability of the tissue market is impacted on one side by factors such as additional paper capacity, fluctuating input costs, retail and distributor consolidation; and on the other side by the increasing importance of innovation and brand building which stimulate healthy growth.

European Tissue Producers 2015 Q1

Total installed capacity in Europe is 10,1 million tpy. The top five manufacturers now control 55% of total capacity (SCA, Sofidel, Kimberly-Clark, WEPA and Metsa Group).

Opportunities for the tissue industry: Cost efficiency, improvements, innovation and branding, channel mix.

Challenges for the tissue industry: Economic climate and category growth, raw material cost, exchange rate volatility, increasing tissue capacity and retailer concentration.

Western European Tissue market suffers from gloomy economic prospects. Southern European and Euro problems have stopped growth, recovery delayed but there is hope for some improvement in 2015-2016.

Eastern European markets have recovered well but political tension threatens growth. The conflict between Russia and the Ukraine also shadowing tissue market expansion.

The strong supply demand balance for pulp has enabled a decoupling of the correlation of the €$ exchange rate and the market price of pulp.

The European tissue industry has experienced several years of tough but relatively stable market conditions: Short term, fluctuating input cost and continued; Retail consolidation is increasing pressure on the industry; It's necessary and possible to increase the attractiveness of the tissue category through strong brands and innovation.

A strategic outlook for the European economy: "Recovery or continuing stagnation?

Andrea Boltho, emeritus fellow, Magdalen College, University of Oxford, UK

Stressed the huge uncertainties surrounding the European economy. On one hand, Europe is in deflation, austerity continues

and the Euro could be under threat. On the other, the fall in oil prices is boosting real incomes while currency depreciation is encouraging exports.

How will the events unfold?

The last few years have been tough, especially for the Eurozone, but a recovery is in sight (even in the Eurozone). Why? Lower oil prices, the European Central Bank's quantitative easing (QE), the Euro's decline and less fiscal austerity.

What could go wrong?

Deflation and debt, increasing tensions in Ukraine, a return to higher oil prices, Grexit (the possibility of Greece leaving the Eurozone) and the Euro collapse ... or the Euro strengthening?

Effect of falling oil prices - there are gainers and losers. Governments of oil producing countries and shareholders of oil producing companies lose, conversely, citizens of oil consuming countries and oil using companies gain.

Gains and losses offset each other and there is no change in total world income.

But there is a change in world expenditure. At the margin, most oil producing countries spend less than oil consuming countries. Hence the growth rates of world demand and output are higher than they otherwise would have been. Rough estimates suggest a gain of as much as 0.5% of world GDP in 2015-16 if the oil price remains at around $50/$60 a barrel.

Why deflation is (very) dangerous

Purchases are postponed in expectation of lower prices. Since nominal interest rates can hardly fall below zero, real interest rates will not only be positive but could reach high levels. The real burden of debt increases, leading to defaults and bankruptcies.

Could Greece leave the Eurozone? It needs debt relief and austerity. If it leaves, what happens to the Eurozone? In 2012 there was a high risk that if one southern European country left the others would be forced to do the same. The risk of contagion is now smaller, thanks in part to QE. No southern country wants to leave and no northern country would wish Italy, Spain or Portugal to leave. The costs for everyone would be huge. But even just Grexit could be costly.

Geopolitical assessment of Europe and forecast for 2015

Adriano Bosoni, Europe analyst, Stratfor, USA

The European crisis has long ceased to be a financial crisis to become primarily an unemployment crisis. In part because of unemployment and other factors such as nationalism, there has been a rise in Euroscepticism, and this has changed the political behaviour in Europe.

In 2015, elections in key countries including the United Kingdom and Spain will severely weaken the traditional ruling elites. Low growth rates and high unemployment are the new normal, especially in the Eurozone.

Southern Europe in particular is trapped in a vicious circle where governments don't spend, households and companies don't borrow and banks don't lend. One of the first elements of the EU that will face erosion will probably be the free movement of people. The constant arrival of immigrants is making countries question the Schengen agreement which allows ease of cross-border movement between EU countries.

The EU in a political crisis

Sovereignty v integration.
Currency union without fiscal union.

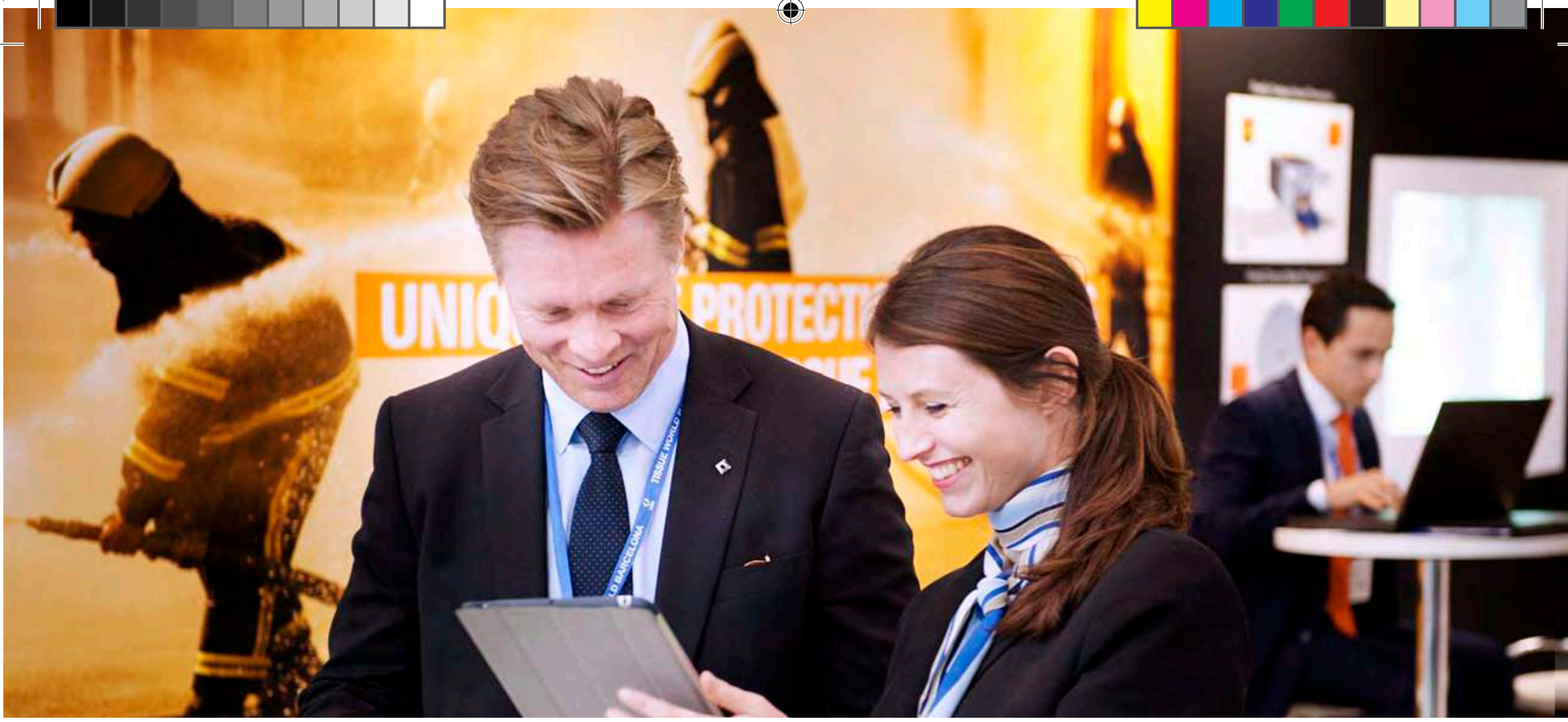
Germany has two conflicting goals – preserve the Eurozone and protect its national wealth - and is struggling to achieve both simultaneously.

Trends in the Eurozone

In 2015 the Eurozone will have to deal with four major problems: economic stagnation, high unemployment, low inflation and high debt.

The debate between countries pushing for more stimulus and countries insisting on further economic reforms will continue. The Eurozone is sleepwalking into a new financial crisis (Italy, Greece, Spain).

Euroscepticism is on the rise, and nationalist, protest and anti-EU parties have evolved to a point where they could enter governments.



EU members including the UK, Spain, Portugal, Finland, Poland and Denmark will hold general elections in 2015.

The EU and Russia

The EU will remain reactive to events in Ukraine and to the standoff with Russia. Even as Germany will maintain firm demands on Russia, both sides will prioritise keeping their communication channels open.

Key area to watch: Intermarium or federal link between countries between the Baltic and Black seas.

Rapid shift of tissue business from West to Central and Eastern European countries (CCEE)

Esko Uutela, principal – tissue, RISI, Germany

Covered developments in tissue consumption, expected growth by main country or sub-region, news on the supply side with new projects, demand/supply balance and a number of other topics in the European industry.

Conclusions:

The Western European tissue business has suffered because of economic problems in southern Europe. Recently, there has been practically no growth but improvement is expected in the next two years, albeit only gradual.

Eastern Europe offers the main growth potential for business expansion and there are several projects in the pipeline. Until recently, Russia was in a strong move but too many investments at the same time have overheated the market which now also suffers from the conflict with the West and the free fall of oil price.

But despite temporary problems, the focus of the European tissue business is clearly moving from the western to the eastern part of the continent, as the recovery in southern Europe will be slow and past growth rates not any more repeated.

Eastern Europe seems not to have learned anything from the past, again too many expansion plans have emerged, in Eastern Europe in particular but also in Western Europe. Europe's outlook is shadowed by ongoing political tension. There are too many additional investment plans, so there is no hope for improving demand/supply balance in the next few years.

International market pulp demand and supply balance to 2020 and implications for the furnish trends of the global tissue sector

Oliver Lansdell, director – Pulp and Paper, Hawkins Wright, UK

Provided an overview of the general state of the global paper and board market and looked at fibre consumption trends. The presentation examined the evolution of global market pulp demand and explained how a wave of new market pulp capacity may facilitate a change in furnish trends in the tissue industry away from recovered fibre content tissue to virgin fibre content.

Recognising prospects for tissue products on the basis of their superior hygiene

Roberto Berardi, chairman, European Tissue Symposium, Italy

The presentation highlighted The European Tissue Symposium's focus on hygiene as a key driver for tissue products growth. It also emphasised hands hygiene as an imperative in the washroom: outcome of the most recent ETS study about aerosolisation while drying hands.

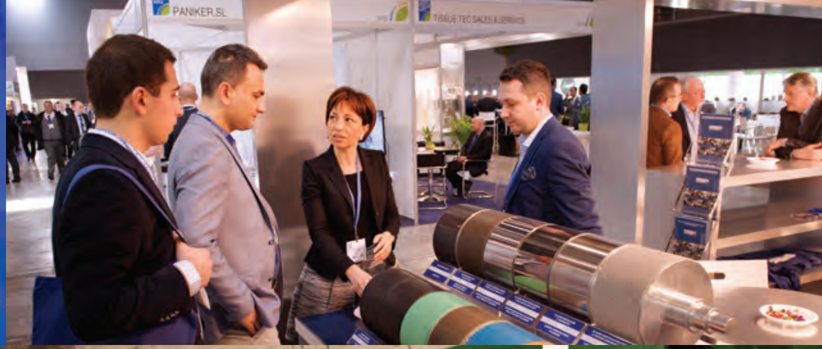
Can European tissue market become immune to low cost competition?

Pirkko Petäjä, principal, Pöyry Management Consulting, Finland

Outlined how fibre is the single most important cost item in tissue – tissue costs are low when the fibre costs are low. Pulp integration contributes to low fibre costs – but tissue production is not typically fibre integrated. Is the integration increasing? Can tissue from low fibre cost areas compete in Europe or are the transport costs too high? There are other important attributes that are as relevant in the tissue market place as the costs.

Reduction in Chatter marks by combining vibration monitoring system with Yankee coating optimisation

Ed Bondoc, CMC business development manager, SKF,



USA, Keith Barker, industry technical consultant – tissue and towel grades, Nalco an Ecolab company - EMEA, UK

Incidents of dryer chatter marks occurring during the tissue creping unit operation have increased dramatically over the past ten years. Details were provided for monitoring equipment and coating chemistry that were implemented on a machine experiencing severe chatter mark problems for the prior eight years.

Improving tissue-machine performance with new fabric, felt and roll cover technology

Bill Butterfield – executive VP and chief technology officer, Xerium, USA

Highlighted advancing design and development methods into a "virtual" world, quality and efficiency starts on the former. System engineering of felts, rolls covers, and venting design for high pressing efficiency.

The ABC for achieving significant energy savings with optimal drying system parameters and settings, automatically and continuously

Giordano Fragiacomo, product sales manager, Direct Sales Air Systems Tissue Business Line, Valmet, Italy

Showcased advantages of the ABC system, namely that it maintains – continuously and automatically and that it gives a permanent optimal balance of hood flows.

Condensate systems – an overlooked optimisation opportunity

Gary Marzullo, technical director, Msquared, USA

From the day your Yankee starts-up, your Yankee condensate system begins to wear out. The faster the machine, the lighter the grade, then the more important it is to have your condensate system running at a high efficiency and uniformity. How to better understand if a condensate system has problems? On-the-run profiling and high speed infrared, when measured in tandem and under both condensing and non-condensing loads, will provide the precise measure of the condensate system's health.

Steel Yankee Dryer TT SYD: Take care of it!

Riccardo Pierini, customer care - Yankee Dryer service engineer, Toscotec, Italy

Highlighted advantages of Steel Yankee Dryer developed by the organisation based on practical cases of installation and gave information about procedures and implementations carried out for the start-up and for the running of the Steel Yankee.

New Technology Solves Challenging Yankee Deposit problems that can push you over the edge

Barry Bartles, Platform Launch and Applications Manager, Tissue & Towel, EMEA, Solenis, UK

SUSTAINABILITY AND ENERGY SAVINGS:

On the Horizon: Three game-changers for sustainable business

Sally Uren, chief executive, Forum for the Future, UK

Outlined findings from Forum for the Future's research into the key themes which should inform strategic decision-making in forward thinking businesses; focusing on the three game-changers which could pose the biggest opportunity.

SCA - global hygiene and forest products company - as a leader in terms of sustainability

Olli Härkönen, director energy savings and technology, SCA Hygiene Products, Finland

Outlined how sustainability can and should be an integral part of the strategy and decision making of any manufacturing company.

Tree free paper products – a global green solution and future market trends

Paul Chandrachur, VP, Projects, American Hygienics Corp, China

Looked at which and how green products will change the

behaviour of consumers, and the subsequent positive impact on society and environment. Outlined new technology, branding and significance of these products in the European context and also focussed on paper products like tissue, diapers, sanitary pads and copy paper.

Sustainability in practice: The Södra Example

Marcus Hellberg, head of marketing, Support and Business Development, Södra Cell International, Sweden

Illustrated the Södra model, why and how it works. Focused on the broader picture on how Sodra transmits sustainable forestry throughout the chain: Södra is currently undertaking a complete review of its sustainability and CSR policy to ensure full integration into its strategy. Why should the end-user care about sustainable sourcing and how can he use it to best advantage? Labels, choice and transparency were explained.

Sustainable supply of wood raw material for pulp

Bengt Brunberg, manager sustainability, BillerudKorsnäs Gävle, Sweden

Outlined sustainability for BillerudKorsnäs in the value chain, why FSC and other sustainability credentials are important. Looked into what characterises sustainable wood sourcing, what added value is there from certified forest management, and how sustainable wood supply evolves today.

Life cycle assessment based tissue products and project design

Jordi Gomà-Camps Travé, production manager, Gomà-Camps SAU, Spain

Outlined the importance of tools like life cycle assessment to determine the real carbon footprint of a tissue product. The importance of the secondary recovered fibre was discussed. The methodology might be the ultimate tool to compare companies or mills amongst them, taking into account the whole environmental burden of its production from raw materials to finish goods, enabling decision makers to decide on a more defined basis comparable throughout the sector.

Utilising enzymes to reduce fibre costs and energy consumption

Frank Pakinkis, senior applications specialist, Tissue & Towel, Solenis, UK

Enzymes are bio catalysts and offer a particularly cost effective route to dry strength development and the associated benefits of trading strength away to deliver significant cost savings. Results achieved include reduced refining, improved drainage, and increased use of cheaper bulkier fibres, reduced basis weight and ultimately improved machine efficiency. Compared and contrasted different mechanisms adopted by polymeric and enzymatic dry strength additives from a paper making perspective, and highlighted, through the use of numerous case studies, the added value that dry-strength enzymes can bring to the tissue making.

Join the future – the most energy saving tissue production line in the world

Marcus Schwier, VP sales tissue EMEA business line projects, Voith Paper GmbH& Co. KG Heidenheim/N.N, Germany

The paper industry is forced to focus more and more on reliable and sustainable processes by increasing competition, costs and market demands. Outlined how the use of Intensa Pulper and the Pluralis Refiner concept will result in a significant reduction of specific electrical consumption in the stock preparation. Demonstrated how it is possible to optimise the fibre mix maintaining the quality of the finished product.

Making a strong, soft and bulky premium tissue cost effectively, using high quality NBSK

Paul Watson, director of research and innovation, Canfor Pulp, Canada

Fibre is a large cost element for tissue producers, reducing the cost of the furnish is a priority. Using the highest quality NBSK is conductive to achieve this objective. In practice, pulp preparation of the long fibre pulp is often not optimal. The front end of the tissue making operation typically does not receive the same level of attention as the PM operation, even though the quality of the furnish delivered at the head box has a large effect

on tissue quality and on production efficiencies. Examined fibre properties and pulp preparation, to benefit the tissue producer.

Innovations in deposit control for tissue machines

James Atkinson, sales manager and PFA launch manager EMEA, Kemira, UK,Rob Mcleod, process engineer, Northwood Tissue (Disley), UK and Carles Cabrera, senior application specialist deposit control, Kemira (Paper), Spain

Following the successful launch of a new breakthrough technology treatment for enhancing felt performance and MB control on tissue machines, Kemira has seen outstanding programme success throughout tissue machines in Europe and Asia. In addition to outstanding microbiological control, extra benefits in felt performance have been observed that were not previously reported with other oxidizing-biocide programmes. Case study explained successfully enhancing felt life performance while maintaining a well-managed microbiologically controlled process which has enhanced environmental sustainability.

Creping excellence: Quality and productivity without compromise

Florent Bougerolle, tissue service project manager, BTG Eclepens S.A., Switzerland

Presentation outlined advantages of Creping ExcellenceTM, its hidden value/savings of controlled bulk enhancement, the five inevitable critical success factors to master creping, practical understanding of crepe interactions: The crepe Model illustrated two case studies on actions and tips from a whole machine bulk approach and the air concept: new game changer to increase bulk?

Economy associated to Yankee hood "Cascading" vs "Parallel" operating mode

Jean Desharnais, president, Enerquin Air, Canada

The economics of switching from the more conventional "Parallel" mode to the "Cascading" mode is not so clear and easy to predict as the process air thermodynamics and air balance for both the wet end and dry end hoods will change when switching modes. Presentation compared both modes of operation for a given production, explained energy savings calculations and application limitations.

Case Study: Tissue makers' experiences of improved performance with advantage ViscoNip Press

Johan Björn, sales director South America, Valmet, Sweden

Outlined tissue makers' experiences of improved performance with Advantage ViscoNip press. The most effective way to reduce energy consumption is to improve press dryness and thereby reduce the amount of water to evaporate. With the Advantage ViscoNip press tissue makers can increase post-press dryness significantly and at the same time improve product quality, save fibres and reduce energy consumption.

CoGeneration System – efficient energy utilisation with a gas turbine in tissue manufacturing

Klaus Gissing, vice president tissue machines and air systems, Andritz

Highlighted CoGeneration System as an efficient method of providing all the required energy from a single source. The energy source for co-generation is natural gas, which is burnt in the turbine and via a directly connected generator produces the required electrical power – the amount is dependent on the turbine size, but should typically be enough for the entire process. The utilisation of the energy source can be maximised and the corresponding energy efficiency of tissue production increased significantly.

TAD – the influence of grammage, formation and pulp type on non-uniform drying and air flow

Aron Tysén, senior research Associate/MSc., Innventia AB, Sweden

The removal of water is an integral part of tissue production. TAD is used for premium tissue grade products. Improved product properties are obtained at the price of high energy demand. A better understanding of the TAD process may lower energy demand. The objective of the work in this thesis was to

investigate the influence of formation, grammage, and pulp type on drying and air flow through sheets. A method was developed, based on infrared thermography, to determine local drying time oflaboratory sheets on a sub mm-scale, while monitoring air flow and pressure drop of the TAD process.

Operational optimisation based on online vibration monitoring

Xabier Echeberria, managing director, Lantier, Spain

Tissue Machines are continuously being pushed towards their design limits to achieve higher levels of productivity and quality. The search for these improvements is constrained by all kinds of factors, among them the presence of self-excited vibrations or chatter. Cases of chatter in tissue machines have increased dramatically in recent years because of the race to achieve greater productivities. To fight this serious problem, LANTIER designed an "intelligent" Crepe Doctor (iCrepe®) with integrated sensors and software that make it possible to monitor the crepe process 24/7 and detect chatter while the machine is running.

Centre-drive unwind architecture and forward acting control technology

Joe Gotshall, business development director, MTorres, USA

Outlined Mtorres' technology that offers self-loading, self-chucking unwind stands for safer, simpler operation. Centre-drive unwinding is ideal for structured substrates, (TAD, ATMOS), as it is a non-contact unwinding technology. Forward Acting Control Technology, (FACT), a patented MTorres control architecture, reduces web losses by correcting tension defects in real time.

Enhancing tissue manufacturing efficiency and performance using new measurement tools

Xuejun Zou, research manager, Paper, Packaging & Consumer Products, FPInnovations, Canada

To support the tissue and towel producers to improve manufacturing efficiency and product performance, advanced measurement tools have been adopted and new methods developed to quantify key tissue and towel properties and their variation. Presented case studies to show how these tools can be used for product benchmarking and diagnostic analysis of product quality problems.

Optimising efficiency through integration and automation

Stefano Fornasini, key account manager, Elettric 80, Italy

Outlined the cost savings and sustainability opportunities derived by maximising integration and automation into the design of tissue production facilities. Showed results in value chain, optimised processes, product quality, and ROI's.

Technological advances in adhesive dispensing for increased efficiency and reduced manufacturing costs

Rod Blanton, sales/applications engineer, Valco Melton, USA

Demonstrated how technological advances in adhesive dispensing are helping meet the requirements for increased efficiency and reduced manufacturing costs across the converting industries. Provided opportunity to learn about the latest innovations in adhesive dispensing and gain a better understanding of its potential for improving operational efficiencies.

State-of-the-art conditions for dewatering at the suction pressure roll

Laslo Monte, director sales tissue EMEA, Voith Paper GmbH& Co. KG, Austria

The highest performance in a tissue machine is achieved only when the best conditions for an efficient nip dewatering are reached. Showcased three products which when combined can bring big savings and boost the machine performance: 1) HydroSeal, the new technology on Suction Press Roll. This new patented Voith technology uses sealing strip with integrated lubrication. 2) SolarSoft, pioneer Voith technology on PU cover for tissue machines. With the biggest number of application worldwide, the SolarSoft has been proven on several applications. 3) Evolution, new technology on felt for tissue.

Optimisation of boiler steam conditioning for scale control

Fernando Dantas, tissue technology manager, Buckman EMEA, Belgium

Demonstrated how to optimise boiler steam conditioning for scale control and to improve a Yankee condensate removal operation to prevent the formation of deposition into the internals of the Yankee dryer and, therefore, to guarantee a maximum efficiency of the coating film applied on the outer layer surface. By looking inside the Yankee dryer cylinder and identifying the origins of the problems and its severe consequences, the presentation tried to put into perspective the importance of a simple chemical monitoring system and treatment of the steam and condensates, which impacts on the operational efficiency of the tissue mill asset and consequently preventing profit loss.

Best-practice of technologies that Increase productivity and paper quality, and reduce manufacturing cost

Waheed AL Qannas, site operations manager, NUQUL Tissue, Egypt

Outlined NUQUL's two projects on eucalyptus consumption and co-generation details to demonstrate that an environmentally friendly approach can also have a positive impact on business performance. Pulp typically forms almost 70% of variable manufacturing costs. Showcased technology required to produce high quality tissue products using 100% eucalyptus fibre with 0% softwood content, a 14 MW gas turbine providing electricity for the site, and turbine exhaust gases in the tissue machine hood to displace the fuel which would normally have been used. Produces 85% efficiency versus 58% normal efficiency in cost efficient way of tissue production.

GLOBAL

Audit finds SCA representatives acted in compliance with Swedish law

SCA has said an independent audit investigating claims its staff were involved in extravagant corporate perks found its representatives "acted in compliance with Swedish law and company policies".
The company had been in the spotlight during 2014-15 over media allegations about its senior executives use of business aviation and hunting for hospitality purposes.
SCA said it appointed two independent audits: accounting firm PwC and Forsberg, authorised public accountant, Deloitte, and Johan Munck, former Justice of the Supreme Court.
In a statement SCA said: "The investigators have determined that the company and its representatives have acted in compliance with Swedish law and the company's policies.
"The company's auditors have also submitted an unmodified auditor's report for 2014.
"Furthermore, the investigators concluded that there are no grounds for SCA to make financial claims against individuals and that the board of directors and the former president should be discharged from liability."
It added that PwC's investigation focused on the use of business aviation, while the second audit also included aspects as the hunts arranged for business hospitality purposes.
The statement said the investigations criticised SCA's invoicing procedures and the high cost of business aviation, which was due to a number of reasons.
"The investigations' findings confirmed that all of the journeys taken by the former president and chief executive in the business aircraft were designated as business trips, that the journeys taken by the chairman of the board and the other board members complied with the company's policy for business aviation and that all issues investigated were determined to be in compliance with Swedish law."
In December 2014, SCA revised its policy on the use of business aviation, entailing that the family of employees and other external individuals are not permitted to travel on the business aircraft and that it may not be used in conjunction with business hospitality.
In February, it was announced that Jan Johansson was to step down as president and chief executive.
The company had been in the spotlight over media allegations that include extravagant corporate perks including the use of private jets.
At the time the on-going audits were understood to have cost the jobs of three of its senior executives.
SCA reported record profits in January 2015, with the group delivering its highest pre-tax profit ever, up 17% to SEK 10,888m year on year. Net sales rose 12% to SEK 104,054m.

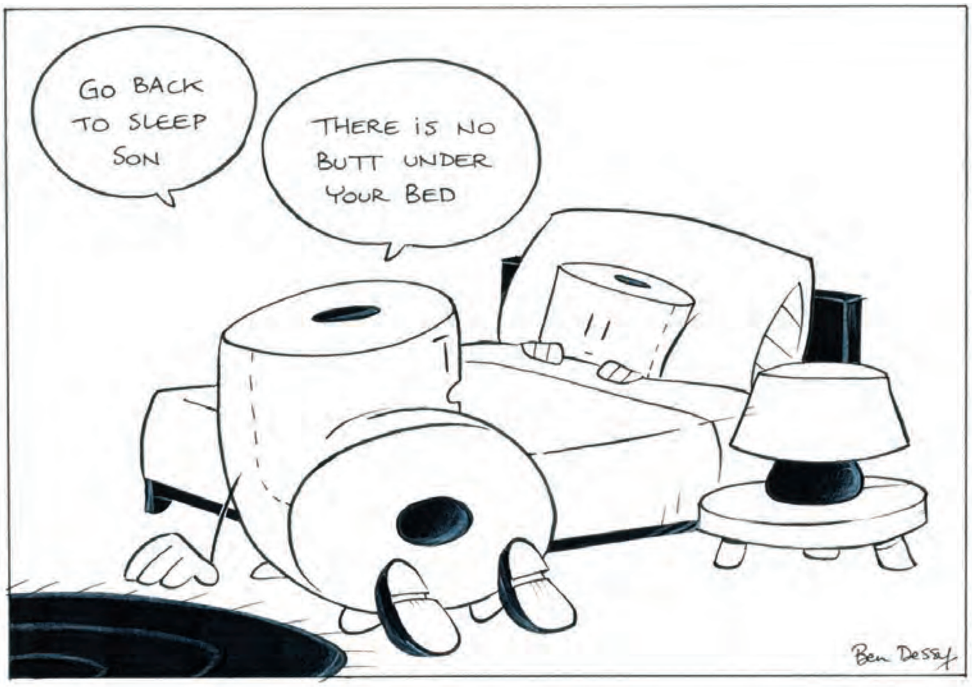
Gant Innovations launches first-of-its-kind product

Gant Innovations has launched a first-of-its-kind product: a patented adhesive paper napkin that can be manufactured without silicone tape and has no need for the tissue to be reinforced.
The adhesive paper napkin has a thin line of specially formulated adhesive which activates when opening the tissue for use so that the napkin will adhere to skin or your clothing and not fall on the floor or float away.
The company's managing director Gail Shaw said: "When using tissue or napkins, one either tucks a napkin in the neck of your clothing or places them on your lap.
"Nine out of 10 times, as they are such a lightweight, they fall on the floor and float away, which in these days with health and safety people do not then want to use.
"Our adhesive paper napkins adhere to your skin or your clothing and don't fall on the floor or float away. "
The company's research extended to hospitals, care homes for the elderly, disabled people, children's nurseries, the everyday consumer and airlines.
Shaw added there is no decline in productivity with this process and that it will have no effect on current packaging parameters.
She added that findings from JRA Research found that 33% of consumers are prepared to pay more for a packet of napkins if they are adhesive while 59% of people would most definitely buy them if they were adhesive.
"This equates to a volume category growth of 13%," she added.
The adhesive is a patented product formulated for Gant innovations only by Bostik Adhesives.

Volume category growth of 13% target with adhesive napkins: Gant Innovations managing director Gail Shaw

Valmet completes acquisition of Process Automation Systems

Valmet has completed the acquisition of Process Automation Systems business from Metso.
The company received the necessary approvals from the competition authorities on 15 January.
The enterprise value of the acquisition is €340m and the company said it is financed with committed long-term financing.
According to the new organisational structure, the acquired business forms Valmet's fourth business line, Automation.
The company will continue to report its financial results as one segment, and the Automation business line will be included in reporting starting from the April-June 2015 Interim Review.
Sakari Ruotsalainen, M.Sc in Engineering, has been appointed president of the Automation business line.
Valmet president and chief executive Pasi Laine said: "The acquisition was completed according to our plan and we welcome approximately 1,600 new colleagues.
"We are now a technology and service company with full automation offering."



TWM cartoon | **May/June 2015**

Solenis completes acquisition of Clearwater Specialties

Solenis has completed the previously announced acquisition of Clearwater Specialties, a privately-held specialty chemical company dedicated to the tissue and towel market.
The deal includes all assets, intellectual property and business associated with Clearwater Specialties and Clearwater Chemicals.
John Panichella, Solenis president and CEO, said: "The technical synergies that exist between the Clearwater Specialties products and Solenis' products will enable us to provide our tissue and towel customers with new levels of performance. "Our global reach along with our significant applications expertise will make these capabilities available to a broader customer base."
Solenis is a global producer of specialty chemicals for the pulp, paper, oil and gas, chemical processing, mining, biorefining, power and municipal markets.

UNITED ARAB EMIRATES

Nuqul Group relocates Jordan tissue mill

Nuqul Group to relocate Jordan tissue mill to new facility in UAE in $90m Greenfield project.

FINE Hygienic Holding (FHH), a subsidiary of Jordan's Nuqul Group, plans to relocate its 54,000tpy Al Snobar mill to a new facility in the Industrial City Abu Dhabi (ICAD) in the United Arab Emirates (UAE) due to high energy costs in Jordan. The cost of the project amounts to approximately $90m.
The firm's management told RISI: "In the absence of Jordan availing a reasonable source of energy for its industry, and in view of the energy subsidies enjoyed by competing regional players, we will be unable to sustain our operations as they are in Jordan."
The project will consist of building a new facility in Abu Dhabi in order to relocate the Al Snobar mill, the management said, adding that the plan is still in a study phase as the contract for the land has not been finalised yet.
Most of the workers from the Al Snobar mill should be relocated to the new site, while some others will be transferred to other FHH plants in Jordan.
The group's second tissue mill in Jordan, the 30,000tpy Al Keena mill, will continue its operations in the country.
In addition to its Jordan mills, the Nuqul Group manufactures 20,000tpy and 54,000tpy of tissue paper at its Al Sindian mills in Egypt.
In addition, Nuqul Group has converting sites in Jordan, Saudi, UAE, Egypt and Morocco, with a total capacity of approximately 150,000tpy of tissue products.

News from RISI (www.risiinfo.com)

TURKEY

Hayat Kimya starts up 70,000tpy TM

Hayat Kimya has started up its up 70,000tpy tissue machine at its Mersin mill in Turkey.
The company started production at its new mill in Mersin in southern Turkey with the startup of Valmet-supplied PM5 on 17 March.
It is now producing saleable paper for the company's own converting plant, paper group director Lütfi Aydin told RISI.
PM5 has a capacity of 70,000tpy of facial, toilet and towel grades, made from virgin fibre.
It has a width of 5.6m and a design speed of 2,200m/minute.
The Mersin mill currently employs 276 people, but this figure will rise to 300 by the end of the year, according to Aydin.
He declined to reveal how much the Mersin mill has cost to build.
Hayat Kimya already operates one mill in Izmit, northwestern Turkey, housing two machines with a combined capacity of some 140,000tpy of tissue and a 65,000tpy tissue mill in Zencan in Iran.
The company is also preparing to start up a 70,000tpy tissue plant in Ain Sokhna in Egypt in October 2016.
Elsewhere, the business has also signed up Valmet to rebuild its TM1 at its mill in Yeniköy, near the city of Izmit in Turkey.
The rebuild will be with Valmet's Advantage DCT technology and

according to the supplier will increase energy efficiency, improve product properties as well as performance, runnability and work environment.
Start-up of the rebuild machine is scheduled for November 2015.
Hayat Kimya has previously ordered five tissue machine lines from Valmet in the past eight years.
TM2, 3, 4 and 5 are already producing high quality paper with high capacity and speed, while TM6 will start-up in 2016.

News from RISI (www.risiinfo.com)

AMERICA

Tissue: KP 'very hard' at work on TAD; von Drehle NTT set for early 2016 startup

While considering a new machine for almost nine months, KP Tissue chief executive Mario Gosselin told analysts

'The "special technology" along with the NTT and ATMOS systems is aimed at producing a softer and higher-quality tissue paper at a lower energy cost than regular TADs.'

that the firm was "working very hard on site selection" and another new through-air-dried (TAD) machine "is still part of our game plan."
The TAD being considered would follow KP Tissue's first quarter 2013 startup of a 207.8-in Metso TAD as part of a $322m project at its mill in Memphis, TN.
The PM produces paper primarily for KP's consumer bath and towel White Cloud brand sold at Walmart stores.
Gosselin told analysts on 12 March that KP's White Cloud business at Walmart stores was "stable."
As for the ongoing research, Gosselin told analysts that he favoured a TAD because of the "success with our TAD" in Memphis, rather than a machine with Voith ATMOS or Valmet NTT technology.
The first NTT machine in the USA is to start up in early 2016 at von Drehle's Natchez, MS, mill, a company official told the Hickory Record newspaper in North Carolina.
The world's first NTT started up at Fabrica de Papel San Francisco's Mexicali, Mexico, mill near San Diego in 2013.
The San Francisco firm is now in a strategic alliance with Orchids Paper to sell for the company on the US west coast.
NTT at Natchez The von Drehle NTT would likely be matched to a deinked pulp line at the Natchez facility, which von Drehle acquired in 2012 from bankrupt Mississippi River Pulp & Paper.
With the NTT, von Drehle expects to make additional AfH products because the PM is to produce both conventional as well as textured high-bulk products, a company official said in the Hickory Record story.
ATMOS technology was first installed on a North American tissue paper machine in first quarter 2011 by Cascades on its PM2 at the Candiac, QC, mill.
In late 2013, Wausau Paper started up an ATMOS machine in Harrodsburg, KY.
Also, Georgia-Pacific (GP) over the last two years started up what contacts called TAD-like technology and GP called "special proprietary technology" on two machines.
The "special technology" along with the NTT and ATMOS systems is aimed at producing a softer and higher-quality tissue paper at a lower energy cost than regular TADs, according to contacts.
It was GP's chief executive A.D. "Pete" Correll in 2005 who told of company efforts to make TAD-quality paper at a lower energy cost than a regular TAD machine.
This, along with a continuing push over the last five to six years by national grocers and retailers for more ultra and premium tissue products on their store shelves, resulted in a drive for TAD capacity.
In the last four years, TADs were half of the 18 new tissue paper machines started up in the US, Canada, and Mexico. Six different firms started up the nine. Previously, TAD production was overwhelmingly dominated by Procter & Gamble and Kimberly-Clark.
One contact said the capacity adds are part of a "move away from commodity and into the premium quality segment" in both consumer and AfH segments in North America.
"(It) is a good strategy... Higher value = Higher return," said the contact who is with one of the producers that started up a new PM.
"The two main variables in any startup are success of the sales team promoting and pushing finished product through distribution, and the machine producing an acceptable quality that conforms to customer standards," the contact said.
Two more ATMOS? Potentially in 2015-2016, two more ATMOS machines are possible in North America.
Contacts said SCA Tissue in Menasha, WI, had a letter of intent for a Voith ATMOS last year, and First Quality Tissue in December said that it was "very excited about its ATMOS technology paper machine in Anderson, SC, and will be announcing its startup date next quarter," which was first quarter 2015.
"This technology will enable the company to expand its premium line of product offering beyond tissue and towel," First Quality said.
First Quality also plans two new TADs this year and next, with the first one now being installed at its Anderson mill and the second set for Lock Haven, PA.
The First Quality TADs are the only ones publicly announced for 2015-2016, out of nine new PM projects in the US (seven) and Mexico (two). KP Tissue's could be the third.

"This technology will enable the company to expand its premium line of product offering beyond tissue and towel," First Quality

In terms of site selection if the firm goes ahead with another TAD, KP Tissue operates 13 tissue paper machines in North America at mills in Westminster, BC, Gatineau, QC, Crabtree, QC, and Memphis. Contacts believe a second TAD would go in at the Memphis operation.
KP Tissue expected to gain some price increases in first half 2015 from last year's AfH increase in North America, Gosselin said.
He said the AfH increases move slowly into the marketplace.
Lincoln Paper and Tissue in February started up a new $6 million biomass steam turbine and condenser system that makes the mill almost fully self-sufficient with electricity, a Bangor Daily News story reported on 23 March.
The project followed a recovery boiler explosion at the mill in November 2013 that ended uncoated freesheet papermaking and pulping.
NPS Corporation said it acquired Celtic

Paper, based in Homer Glen, IL. Terms were not disclosed.
Celtic Paper makes foodservice products including paper napkins, folded towels, roll towels, bath tissue, and deli and pan liner papers.
"This acquisition gives NPS a much broader offering in foodservice-focused products that we have not had in the past," said NPS president and chief executive Andrew Hetzel Jr.
"When combined with our existing towel and tissue offering, these new products give us an incredibly diverse bundle of products moving forward."

News from RISI (www.risiinfo.com)

Smooth startup: The Grigiskes team with the 1,900mpm design speed Toscotec-supplied line

RUSSIA

Hayat Kimya inaugurates 70,000tpy Alabuga tissue mill

Turkish tissue producer Hayat Kimya has inaugurated its 70,000tpy Alabuga tissue mill located in Tatarstan, Russia.
The mill, which occupies a 73,000m2 site in the special economic zone Alabuga, employs approximately 400 people.
Alabuga's sole 5.6m wide PM, supplied by Valmet, has a design speed of 2,200 m/min. It was brought online in mid-December 2014.
The mill produces virgin fibre-based toilet paper, paper napkins and kitchen towels under the Papia and Familia brand names.
The Alabuga mill is Hayat Kimya's first tissue plant in Russia. The total cost of the investment is $150 million.

News from RISI (www.risiinfo.com)

LITHUANIA

Grigiskes boosts capacity by 110tpd with PM6 at its Vilnius mill

Grigiskes has started up its new 110tpd tissue PM6 at its Vilnius mill.
The Toscotec-supplied line has a design speed is 1,900mpm with a net web width of 2,750mm.
Gintautas Pangonis, president of Grigiskes said: "As announced earlier, erection of the new production line was terminated in the beginning of March.
"All components of the new machine were tested during the first half of the month and this week we produced the first batch of paper.
"We are very happy to announce that production startup was smooth. Having started production with a new paper machine we expect to see the fast growth of our turnover and profit."
The new paper production line will match the needs of company's processing lines of paper products and will allow further development of paper production and sales.
Toscotec's supply includes an AHEAD-1.5S crescent former tissue machine with single-layer headbox, single press configuration and a Steel Yankee Dryer (TT SYD-15FT), machine auxiliaries (gas heated hood with three stages heat recovery system, machine dust and mist removal system, hall ventilation system were Milltech's), stock preparation plant for virgin pulp and electrification & control system.
The site already houses the 17,000tpy tissue PM5.

SOUTH AMERICA

CMPC estimates 2015 Capex at $1 billion; seeks tissue growth opportunities

Last year, CMPC's Capex reached $1.6 billion, including the Guaíba 2 project, a new tissue machine in Mexico and new cogeneration plants.
CMPC CFO Luis Llanos said: "We will reduce Capex after Guaíba is finished. The total Capex estimated for the year 2015 is $900 million to $1 billion; half of that would be Guaíba, then we'll have a smaller number in 2016."
2015 will be a landmark year for CMPC, the company said. "The Guaíba pulp expansion is the largest expansion in our almost 95-year history, increasing our pulp capacity by more than 40% to 4.1 million tpy while lowering our average cost of production.
"This world class facility is now more than 90% complete and is on track to begin production at the end of the second quarter of the year, providing pulp for our well-established global client base.
"Elsewhere, we have smaller projects that will increase our tissue capacity in Mexico and advance our progress towards energy self-sufficiency."
CMPC plans to start up a new 1.3 million tpy bleached eucalyptus kraft (BEK) pulp line at its Guaíba mill in Brazil by the end April.
The new 50,000tpy tissue paper machine at CMPC's Altamira unit in Mexico is scheduled to start up in the third quarter of this year.
A new cogeneration plant will also begin operation at Altamira in the third quarter.
CMPC is building another two cogenerations plants – one in Puente Alto and another in Talagante, both in Chile, with start-up planned for the second and third quarters, respectively.
Llanos explained CMPC is still looking for opportunities to grow. "But of course our debt level is high due to the Guaíba project, so it is early to think about growing more before our leverage returns to at least 2.5x.
"The sectors we have priorities would be tissue and pulp – we are confident that tissue is an area of growth; for pulp, those projects require more time to be done, so in the short term we will grow more in tissue," he said.
CMPC's leverage level was at 3.4x at the end of fourth quarter 2014, up from 2.8x in December 2013.

GERMANY

Fripa reaches production speed of 2,100m/min

Fripa Papierfabrik Albert Friedrich has said its PM 7 line achieved a production speed of 2,100m/min, making it one of the most efficient tissue machines currently operating worldwide.
Based at the company's Miltenberg site, PM7 was commissioned mid-November 2014.
Supplied by Voith, the NipcoFlex T shoe press and EvoDry Y Yankee cylinder enable high speeds at lower energy consumption.
An increased dry content, which reduces the thermal energy requirement by up to 20%, is achieved downstream of the press section.
PM7 produces super soft toilet tissue and kitchen paper.
Fripa's managing director Andreas Noack said: "PM7's innovative technology allows us to safeguard and further enhance our high quality standards."
The company has manufactured high-quality tissue papers for the international market since 1911. At its production site in Miltenberg it operates three paper machines and several converting plants.

Top performer: Fripa's Miltenberg site PM7 line reached a production speed of 2,100m/min

CHINA

Liuzhou Liangmianzhen boosts capacity

China's Liuzhou Liangmianzhen Paper Product has invested in two Toscotec-supplied MODULO-PLUS ES tissue lines that will be installed at its production site in Liuzhou, Guangxi.
The two TMs are based on Toscotec's ES concept and the order includes: the two crescent former machines equipped with a TT SYD-15FT (4,572mm) and double press configuration, a Milltech Steam Heated Hood, Toscotec stock preparation high efficiency equipment and the electrical and control systems, a TT WIND-M Tissue Slitter Rewinder, spare parts for the entire plant and a full service package complete the scope of supply.
Start-up is scheduled for the second half of 2015.
The two MODULO-PLUS are designed for a design speed of 1,500m/min and will produce 65tpd of high-quality toilet and facial tissue from pre dried virgin pulp and slush pulp.

Sun Paper starts up new 60,000tpy tissue PM in China

China's Sun Paper has started up a new 60,000tpy tissue PM at its flagship mill in Yanzhou city, Shandong province.
The first sheet of paper rolled off the Andritz machine (PM28) on 9 March; it has a width of 5.62m and a design speed of 2,000m/min.
The machine is equipped with a two-layer headbox and the order included dilution control, a Steel Yankee dryer with a diameter of 18 feet and a heat recovery system.
Sun Paper diversified into the tissue segment last year by commissioning an identical 60,000tpy unit (PM27) at the same mill.

News from RISI (www.risiinfo.com)

Andritz starts up eleventh TM for Hengan Group

Andritz has successfully started up Hengan Group's PM18 tissue machine.
The PrimeLineST W8 tissue machine is installed in the company's Changde mill and it has a design speed of 2,000m/min and a width of 5.6m.
It and the Andritz-supplied PM17 (started up in September 2014) are equipped with an 18-foot steel Yankee combined with a steam hood to minimise drying energy costs.
The scope of supply also included the complete stock preparation plant and the automation system.

SLOVAKIA

SHP Group boosts efficiencies

Hygienic Paper Group (SHP Group) has increased its performance and efficiency by integrating a Gambini Touchmax embosser into one of its existing converting lines.
The company aimed to increase the performance and production flexibility of the line as well as the quality of products so it could produce a new kind of embossing pattern with the Flexless technology.
The Touchmax was installed onto an existing Sincro 5.0 rewinder line, with 4-channel log saw.

Gambini said the line allows a three-minute product changeover and guarantees a high level safety for the operators and high quality of the tissue roll products.
It is capable of producing up to six different products by entering the embossing roll configuration via HMI panel without replacing any steel embossing rolls and allowing therefore a real-time production scheduling.
SHP Group has 8 companies in six countries in Europe (Slovakia, Bosnia and Herzegovina, Croatia, Czech Republic, Hungaria and Slovenia) and its four manufacturing plants produce 100,000 tpy of paper.
It is one of the largest producers of sanitary papers in central and south-eastern Europe.
Its main brand is the Harmony brand that is present in the markets of Central Europe and the Balkans, Western and Eastern Europe.
It includes a complete portfolio of toilet paper, kitchen towels, handkerchiefs, napkins, cosmetic wipes and wet complementing products for home consumer usage and professional AfH customer segments.

POLAND

GZP boosts capacity with 80tpd crescent former

Głuchołaskie Zakłady Papiernicze (GZP) has boosted its capacity after it signed up Hergen to supply a Smart Fit Crescent Former.
The Polish company produces a variety of tissue products across five machines located in two paper mills.
Its Niedomice mill's PM1 will be rebuilt into a crescent former and Hergen's scope of supply included approach flow engineering, crescent former HCF 920 Smart Fit, felt section, suction and blind drill press section, Yankee dryer columns, pope reel, a set of spare rolls, package of engineering and start up services.
The machine produces tissue with basis weight since 11g/m2 up to 28 g/m2 on the reel with excellent formation and mechanical properties.
Operating speed is 1,200m/min and it is designed to achieve capacity up to 80tpd.
GZP offers a full range of tissue products, including private labels.
The investment is part of a development plan to improve its products and energy savings.

Refocusing on core business: the newly named WEPA Troyes plant in Champagne, Ardenne

FRANCE

WEPA boosts private label presence with mill acquisition

WEPA has increased its presence in the French consumer private label market after it acquired Lucart's Troyes tissue plant.
The WEPA Group took over the plant – now known as WEPA Troyes – and the consumer business related to the products manufactured in the plant on 1 March.
Lucart Group will continue its activity in the French market through its other French company, Novatissue, and continue to develop the AfH business and produce recycled tissue products for the consumer market.
Martin Krengel, WEPA Group chief executive, said the acquisition was to further strengthen its market position in the French consumer private label sector and increase its paper production and converting capacity.
Massimo Pasquini, chief executive of Lucart, said the sale was part of a strategic project "refocusing Lucart Group activities on its core business".
WEPA Troyes is located in the region of Champagne, Ardenne, and has an annual production capacity of 32,000 tonnes of tissue, a converting capacity of 40,000 tonnes and 150 staff.
WEPA Group was founded in 1948 and produces 640,000 tonnes of high quality toilet paper, kitchen rolls, handkerchiefs, facial tissues, napkins, industrial rolls and towelling paper are produced by 16 paper machines.
Products are mainly sold to the consumer sector, predominantly as private labels to the European retailers.
Lucart Group is an Italian Group with a production capacity of 300,000tpy of tissue and MG paper.

SLOVENIA

Paloma seeks Euro 15m in capital increase

Tissue producer Paloma has started a process to raise its capital by Euro 15m ($17m) in order to enhance efficiency and its financial results by modernising its production facilities, increasing its capacity and removing current bottlenecks.
The firm operates a 70,000tpy mill in Sladki Vrh.
Paloma has launched an invitation for non-binding expressions of interest in the capital increase. Existing shareholders' priority rights to subscribe new shares will be excluded.
The process will be run as a two-round international tender process with submission of indicative offers in the first phase and submission of binding offers in the second phase following due diligence, according to a company statement.
The deadline for submitting indicative offers was on 16 March.
If the capital increase is successful and if an investor alone or together with partners obtains at least a third of the voting rights in Paloma, the investor will be obliged to publish a take-over bid in accordance with the Slovenian Takeover Act.

After the indicative offers have been reviewed and evaluated, Paloma may invite selected investors to participate in the second phase of the tender process. These will be invited to conduct due diligence on the firm before submitting binding offers.
Paloma said that the opening, review and evaluation of both the indicative offers and the binding offers will not be public.
The firm has appointed Erste Group Bank and the financial advisor P&S CAPITAL as financial advisers for the process.
In 2013, the state of Slovenia started a process to sell its 70.97% holding in Paloma as part of a broader privatisation programme.

News from RISI (www.risiinfo.com)

CUBA

Cuban tissue maker Prosa resumes production pace

Cuba's sole tissue paper producer Productos Sanitarios (Prosa) has completed in the last quarter of 2014 an investment to replace a suction press roll at its mill in Matanzas, on the north coast of the country.
The new equipment was supplied by Hergen and enabled Prosa to resume its regular production capacity of 7,000tpy in October of last year.
According to Hergen's application engineer, Maicon Avancini, the previous press was damaged and prevented the mill from achieving full capacity during a few months of 2014.
He said: "The paper machine is now able to operate at 400 metres per minute again, which was the original speed designed for it.
"Total capacity produced in tonnes might vary according to the product which is being manufactured."
In the past, state-owned Prosa had announced plans to increase capacity to 10,000tpy but that move has not taken yet, Hergen's executive said.
"To increase output the company still needs to move on with several investments in this mill. Our supply only involved the replacement of an existent equipment."
The facility currently produces toilet paper and napkins on a 15-23g/m² basis weight and is the only tissue producer in the country.
As industrial statistics about Cuban companies are not disclosed, there are few details on Prosa's real capacity.
Local papers reported it can't meet all the country's demand and that's why the country faced tissue paper shortage in early 2014.

News from RISI (www.risiinfo.com)

PORTUGAL

Portucel Soporcel acquires AMS BR Star Paper

Portucel Soporcel has diversified into tissue paper with the acquisition of tissue paper manufacturer AMS BR Star Paper (AMS).
After a period of heavy investments which ended in 2009 and culminating with the start-up of the new paper mill in Setúbal, the group has focused on consolidating its position as Europe's leading manufacturer of uncoated woodfree paper whilst diversifying into tissue.
The company said: "Changing patterns of economic growth and consumption around the world mean that the time has come for a fresh reflection on strategy.
"Taking advantage of the strong position that Portucel achieved in the European uncoated woodfree paper market, the group has decided to look elsewhere for growth and to develop a plan for a new development phase, whilst recognising that protecting its financial soundness and its ability to provide a good return for shareholders is crucial."
Portucel is set to move into tissue by combining organic growth with the acquisition of existing capacity.
Organic growth will be achieved through a business model based on direct incorporation of pulp into tissue production and location of the converting lines close to the destination markets, allowing Portucel to achieve clear competitive advantages in industrial, logistical and commercial terms, and to position the group as one of Europe's most competitive producers.

'Portucel is set to move into tissue by combining organic growth with the acquisition of existing capacity.'

AMS BR Star Paper is based in the Iberian Peninsula, located in Vila Velha de Rodão, Portugal.
It produces 30,000tpy of tissue and has a converting capacity of 50,000 tonnes.
It has plans to double its production capacity for tissue papers by the third quarter of 2015.
The total investment in AMS, including expenditure needed for its current capacity expansion plans, will total around €80m.
AMS recorded turnover in 2014 of €51.3m.
The purchase agreement is subject to authorisation by the Competition Authority.
The Portucel Soporcel group is Portugal's second leading exporter and accounts for approximately 1% of Portugal's GDP, around 3% of the country's total exports of goods, close to 8% of all containerised cargo and 7% of all containerised and conventional cargo exported through Portuguese ports.

INDIA

SCA inaugurates first production facility

SCA has inaugurated its first manufacturing facility for personal care and tissue products in India.
Based in Pune in the central Indian state of Maharastra, the site produces baby diapers and tissue for the Indian market.
Baby diapers are sold under the Libero brand and tissue under the Tork brand.
President and CEO Magnus Groth said the low penetration of hygiene products coupled with the large population in India provide the potential for future growth.
"The plant in Pune will enable us to further leverage the growth potential in India.
"The investment is in line with our strategy of strengthening SCA's presence in emerging markets."
SCA has been active in the Indian market since late 2013 and has invested SEK150m in the Pune plant.

New members in SCA's corporate senior management team

Volker Zöller has been appointed as president of SCA's Consumer Goods Europe Business Unit and a member of the corporate senior management team.

Ulrika Kolsrud and Donato Giorgio also join the senior management team; Kolsrud also assumes the role of president of Global Hygiene Supply Personal Care and Giorgio assumes the role of president of Global Hygiene Supply Tissue.
Zöller was previously the head of regional sales and marketing, Central Europe at Consumer Goods Europe, Kolsrud was vice president R&D at Personal Care and Giorgio was vice president Product Supply Personal Care.

ITALY

Eurovast boosts capacity with machine start-up

Eurovast has started up its new tissue machine at its Cartiera della Basilica Lugliano-Bagni di Lucca plant.
The company has been working in the tissue market since the beginning of the 1990s and becomes a leading producer in the international tissue market with the start up of this line.
The Toscotec-supplied machine is a MODULO-PLUS crescent former with double press configuration and Steel Yankee dryer TT SYD-3200MM with a maximum speed of more than 1500 mpm.
The investment was made so the company

'Eurovast becomes a leading producer in the international tissue market with the start up of this line.'

can focus on improving the end result in its product range and in the development of new products.

WALES

Fire hits SCA Oakenholt tissue mill - production briefly suspended

A fire broke out on the morning of 27 February at SCA Hygiene Products' Oakenholt tissue mill in north Wales.
The mill and surrounding area were temporarily evacuated and production was suspended for six hours.
According to the firm, the blaze started near a wall next to the PM2 rewinder, before being quickly extinguished.
"There was no structural damage caused to the machinery, roof space or any other parts of the building," said mill manager George Placogiannakis.
The Oakenholt facility houses two paper machines and has an annual capacity of 68,000tpy of tissue.

News from RISI (www.risiinfo.com)

FINLAND

SCA to take out 69 jobs at Nokia tissue mill

SCA has wrapped up the discussions it started with employee representatives in November last year regarding possible job cuts at its 80,000tpy Nokia tissue mill in Finland.
As a result, the firm will reduce the headcount at the mill by 69 full-time equivalent positions.
The reductions will be made on a voluntary basis as well as through temporary layoffs, a company spokesperson said.
The Nokia mill employs approximately 250 people. When the discussions started, the firm was considering cutting a maximum of 80 jobs.
The job cuts were prompted by a change to the market situation, notably in Russia.

News from RISI (www.risiinfo.com)

The new Eurovast startup in Lucca, Italy: maximum speed of more than 1500mpm

By Fisher International's **Bill Burns**

Chile – Modest T&T business with recent growth

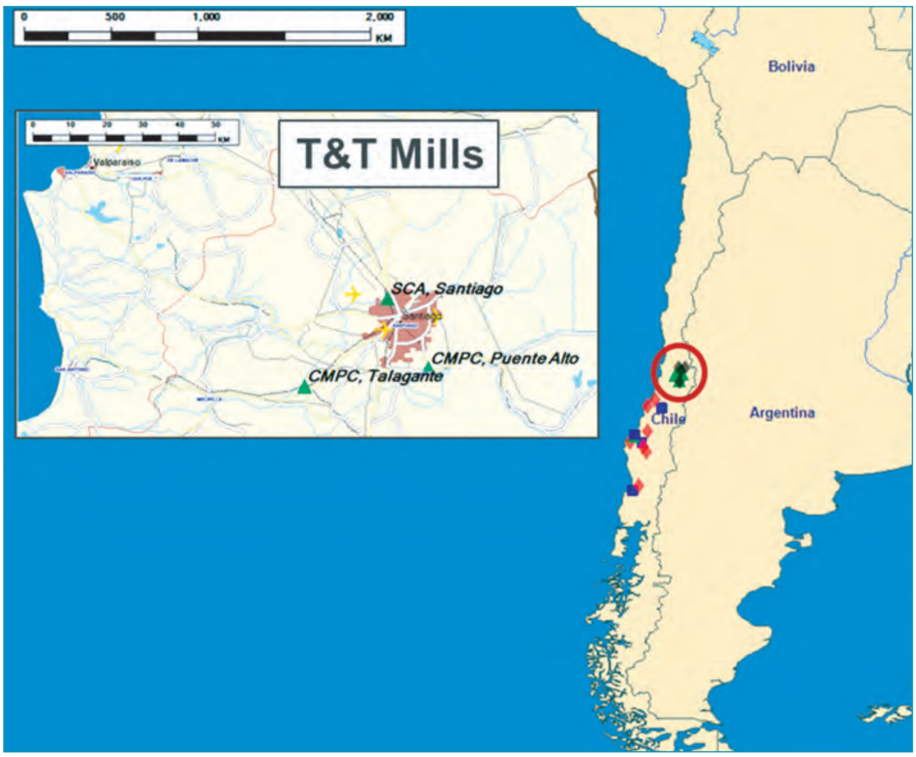
Chile is the number three pulp and paper producing country in a Latin American market that is heavily weighted to pulp production. Nearly half of the 48M FMT pulp and paper market in Latin America is market pulp production (Figure 1). Taking market pulp out of the picture and looking at paper production exclusively, the market is about 24.5M FMT, dominated by Brazil with a 50% share while Chile is fourth largest producer with a 6% market share (Figure 2). Overall, the Latin American paper market has been growing slowly but steady over the past seven years. Announced increases suggest the growth trend will continue for several years to come (Figure 3). Looking at Chile, we see growth in two segments. Packaging has been growing at a very fast rate outpacing all other grades. Towel and Tissue (T&T) growth has kicked up in the last couple of years and there is an announced increase in 2015 (Figure 4).

The T&T market in Chile is shared by two companies CMPC and SCA (Figure 5). These two companies combined make Chile the fifth

"The Chilean T&T market is shared by CMPC and SCA. Combined, these two companies make Chile the fifth largest producer in Latin America."

Bill Burns
Senior consultant, Fisher International

Chilean Pulp and Paper Mills



Chilean Operating Pulp and Paper Mills with T&T mill locations higlighted

Key

- Operating integrated manufacturing
- Operating Paper-only manufacturing
- Operating Pulp-only manufacturing
- Site
- Selected sites

Fisher INTERNATIONAL

Source: FisherSolve ™

By Fisher International's **Bill Burns**

largest producer in Latin America. Of course, that statement is somewhat misleading as two countries, Brazil and Mexico, dominate the market with production levels three to four times the next largest producing countries (Figure 6).

Looking at competitive factors beyond overall capacity we see that the machines in Chile are technically older than most of those in other countries in the region (Figure 7). Plotting the number of machines in a bubble chart against technical age and trim we see that Chile's nine machines are above average age and at average for trim (Figure 8).

Competitive cost position tends to be driven by fibre choices. Chile's fibre sourcing is not too dissimilar from the largest producers with 50% +/- Recycled Fibre and the remaining

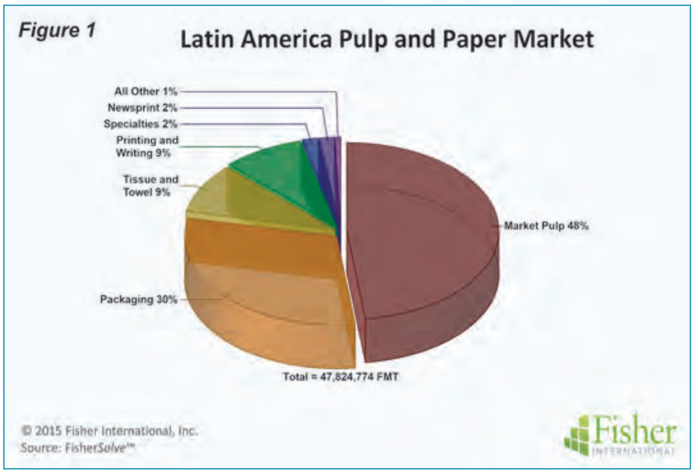


Figure 1 Latin American Pulp and Paper Market

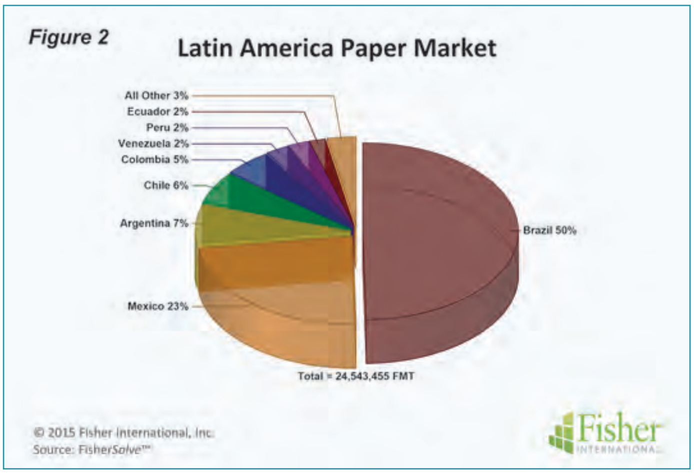


Figure 2 Latin American Paper Market

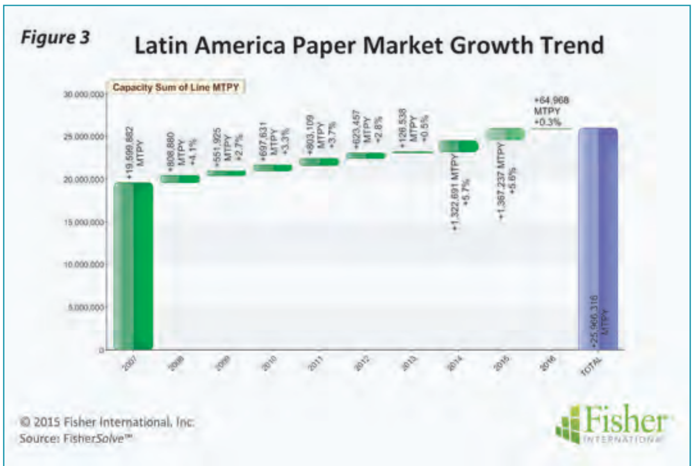


Figure 3 Latin America Capacity Growth Trend

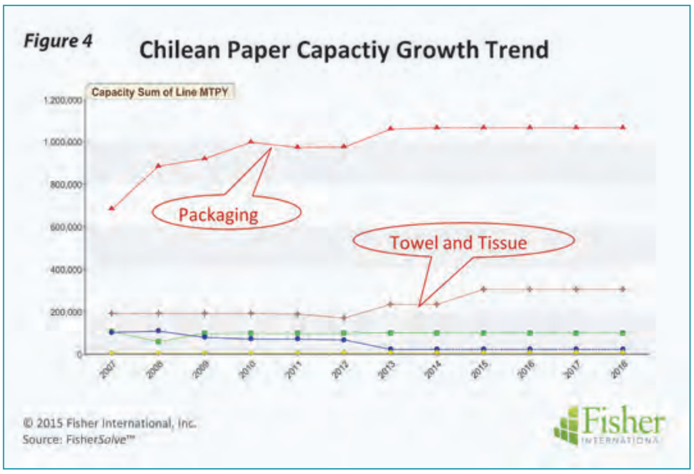


Figure 4 Chilean Paper Growth Trend

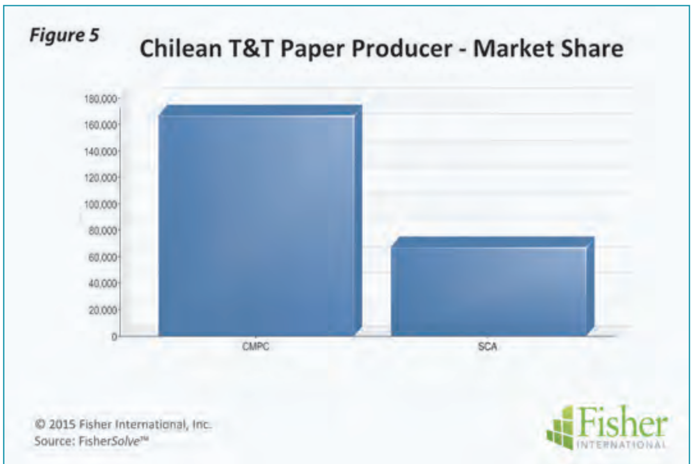


Figure 5 Chilean T&T Producers Market Share

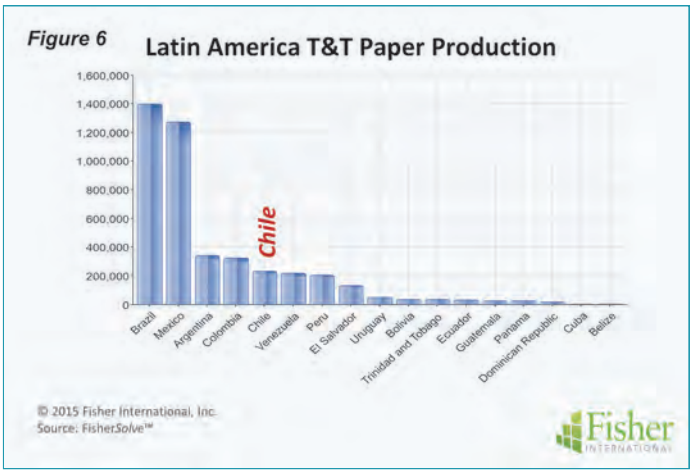


Figure 6 Latin American T&T Paper Production

By Fisher International's **Bill Burns**

being Kraft pulp (Figure 9). Viewed on a Latin American T&T cumulative cost curve, Chile is in the middle of the pack (Figure 10). As expected, countries with higher dependency on costly market pulp have high cost and those with more self-sufficiency in recycled or integrated pulp have lower cost. Cost competitiveness must be considered within the context of what could be costly due to regulations in the future. Carbon emissions have the potential to impact cost positions and disrupt the current balance in the future. When carbon emissions for the countries in the region are modeled, Chile falls in the center (Figure 11) with a significant player holding a considerably lower emissions position.

In the end, competitiveness in T&T tends to be local. Typically,

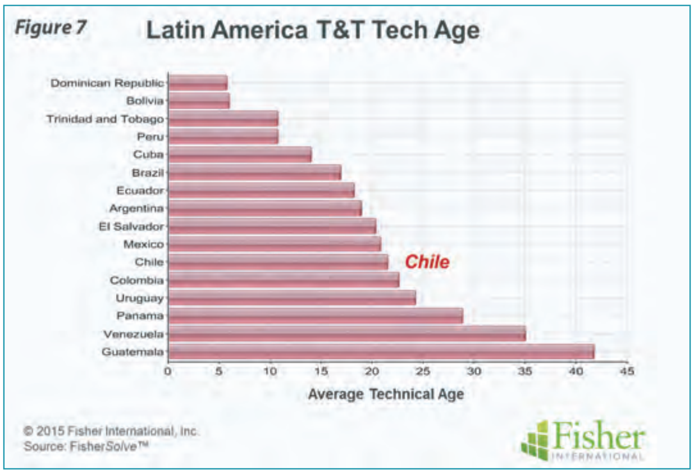


Figure 7 Latin American T&T Average Technical Age

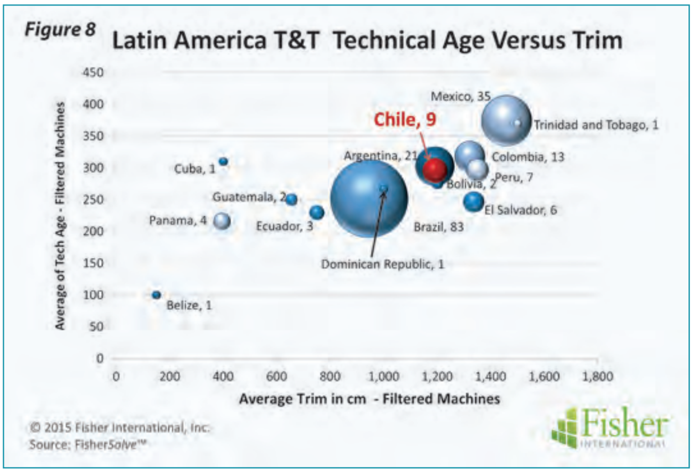


Figure 8 Latin American T&T Technical Age versus Trim

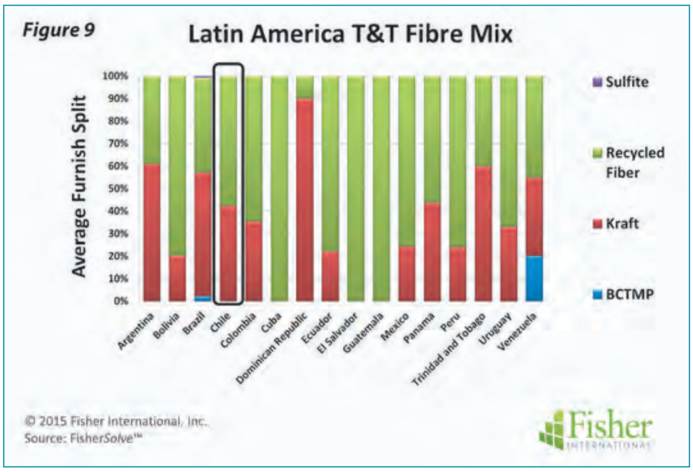


Figure 9 Latin American T&T Fibre Mix

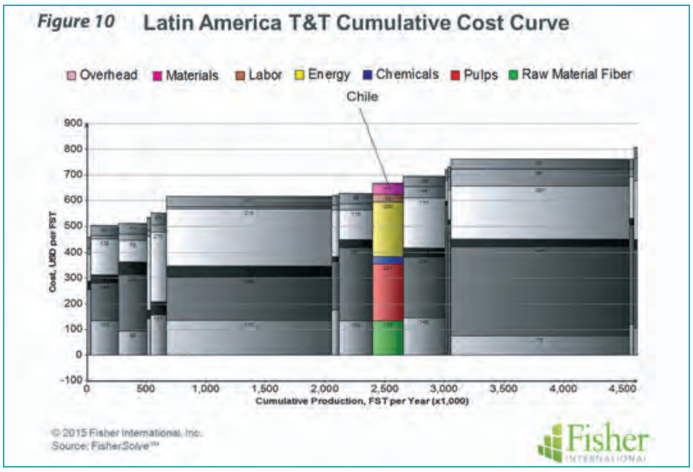


Figure 10 Latin American Cumulative Cost Curve Highlighting Chile

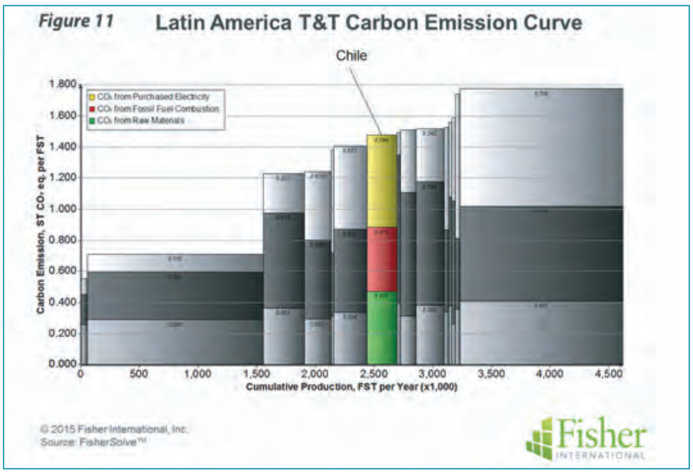


Figure 11 Latin American T&T Carbon Emissions and Cumulative Production Curve Highlighting Chile

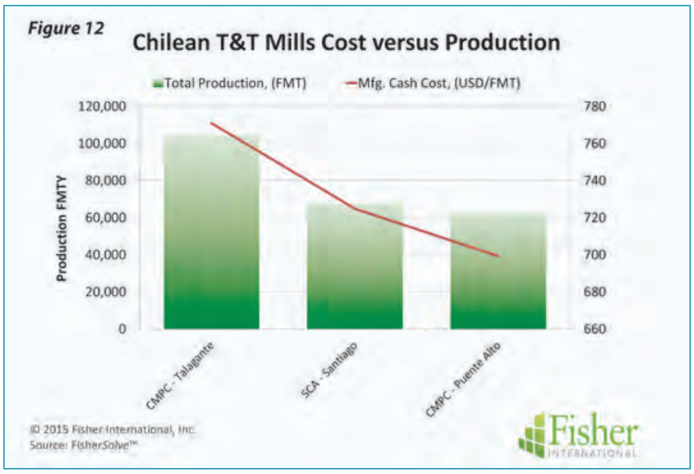


Figure 12 Cost Versus Production Combination Chart for Chilean Mills

the company or mill with the best cost position, the right product performance, and adequate capacity to meet the needs of its market should have a strong market position. Assuming all competitors make comparable quality products that meet end users' needs, the low cost producer should command the market. In Chile the reverse appears to be the case. The low-cost mill has the lowest capacity while the largest mill (in terms of T&T production) is also the highest cost-per-ton producer (Figure 12).

The source for market data and analysis in this article is FisherSolve™. Data tables behind Figures 1 - 12 can be obtained from Fisher International. E-mail requests to info@fisheri.com.

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By David Mackinson, senior research analyst, Euromonitor International

Tissue marketplace in Chile: maturing retail and opportunities in away-from-home sales

A bit of time spent in Chile, and you might consider it an outlier amongst its Latin American family. The country runs with German-style efficiency when compared with the rest of the continent, and you might say that a Chilean is uncharacteristically serious when compared to their Colombian or Brazilian counterparts. A walk through Santiago's financial district feels something like Chicago while the nearby port city Valparaiso would have you taking elevenses (tea is overwhelmingly preferred to coffee) or grabbing a plate of Chilean fish (merluza) and chips. Northern architecture aside, Chile doesn't really feel as though it was ever a Spanish colony. Puerto Varas and Frutillar in southern Chile feel more like Rothenburg in Bavaria. Finally the developing middle class and its substantially higher level of disposable income are significant factors in the country's consumer behaviour habits.

Retail tissue is well developed in Chile, at per capita consumption of 8.1kg in 2014. This is only slightly below regional average in Western Europe, although still behind the North American average of close to 14 kg per capita. In 2014 Chilean retail tissue saw 1.7% growth in volume terms, which is well below that of the regional 3.3% for Latin America.

The away-from-home market, on the other hand, recorded close to 8% growth in volume in 2014. While reflective of stronger opportunities for growth in contrast to retail, away-from-home sector is not without its share of risks.

Focus on value-added products in retail

Toilet paper and kitchen towels remain the key categories in Chilean retail tissue, accounting for 90% of retail tissue sales in 2014. Toilet paper in volume terms grows alongside the stagnant population (Chile has the second lowest birth rate in Latin America behind Cuba), although there is still much room to cover within kitchen towels if Chile ever wants to match consumption rates in the US. Lower consumption of facial tissue, compared to North America and Western Europe, also suggest potential for further growth within the category.

The tissue market in Chile continues to be dominated by the local giant CMPC, which has never seen its share in value drop below 70%. The leading brand in toilet paper, Confort, is synonymous with the product in Chile, while a kitchen towel is more commonly referred to as a "toalla Nova", Nova being the CMPC brand and market leader. The company has actively invested in value-added options for its existing brand portfolio, rolling out Nova Evolution (greater absorption) in 2014. Confort odour control toilet paper is interesting due to the limits of Chilean piping (toilet paper is often discarded in waste baskets). Confort wet toilet paper represents less than 1% of the market. However, it illustrates how far the company has to go to squeeze value out of the market.

C E David Mackinson

Euromonitor International's senior research analyst

The company also seeks to increase facial tissue appeal to consumers through the additional of fragrances. The CMPC Tissue brand Elite Aromas offers pocket handkerchiefs with added fragrances, such as vanilla, coconut, apple and others. Elite boxed facial tissues has added Aloe vera and vitamin E variants, as well as menthol.

Growth opportunities for CMPC have been explored on the other side of the Andes as well. The company is active within eight countries in Latin America (including Brazil and Mexico) but has encountered more adverse environments in Colombia, Brazil, and Mexico thanks to the presence of SCA, Santher and Kimberly-Clark, respectively. Where else might a Latin tissue producer look to for growth?

Opportunities and caveats of expanding in AfH segment

An outlying characteristic of Chile is that of its relative economic and political stability. Regional giants Brazil, Argentina, and Venezuela will all be in the red in 2015, and even though growth will be strongest in Colombia, Chile has had the benefit of more than a decade of mostly interrupted progress. This type of economic stability and consumer confidence has allowed businesses of all stripes to outsource their tissue needs.

'CMPC is active within eight countries in Latin America (including Brazil and Mexico) but has encountered more adverse environments in Colombia, Brazil, and Mexico thanks to the presence of SCA, Santher and Kimberly-Clark, respectively. Where else might a Latin tissue producer look to for growth?'

By David Mackinson, senior research analyst, Euromonitor International

AfH tissue in Chile increased by 8% in 2014, while in current value terms sales grew 13% (in local currency). The market leader CMPC is pressing higher quality, more efficient products that actually encourage lower rates of usage in volume terms. Positive volume growth is also due to the aggressive sales campaigns being undertaken by the leading companies in the category. The prospective AfH tissue client in 2015 is no longer a large operation with at least 100 employees, but rather much smaller businesses and offices which employ fewer than 50 or even 25 people.

However, this opportunity in the AfH market comes with its own set of risks. Smaller businesses are often more acutely aware of budget constraints, and fixed contracts for toilet paper, kitchen towels and napkins might be considered a deal breaker for a small business trying to cut costs. The Chilean economy experienced a de-acceleration in the third and fourth quarters of 2014 and consumer confidence saw its lowest rates since the global financial crisis in 2009. This presented an opening for the more economical Chinese brands that have begun to enter the Chilean market. Subsequently, growth in value in 2014 was constrained due to a nearly 2% drop in the average price of AfH tissue.

Current strategy for the companies involved in AfH tissue and hygiene in Chile is to offer diverse product portfolios in order to meet the needs of a wide range of different clients. For example, CMPC Tissue offers Elite Maxwipe, paper towels designed for very specific industrial uses such as absorbing lubricants, oils and solvents. Papeles Industriales also targets the economy and premium end of the away-from-home price spectrum. It leads innovation in terms of design with its Tork line, which features a range of dispensers for soap, toilet paper and paper towels. Food processing plants are a primary focus for Kimberly-Clark Chile. The company is focused on the specific needs of this industry with a range of products including paper towels, dispensers and soap.

Look ahead: portfolio diversification and increasing focus on quality in AfH market

The overall growth in retail tissue in Chile is set to continue at a modest 1% CAGR in volume terms through 2019, with fairly mature toilet paper recording the lowest rate of growth. Somewhat less developed, compared to toilet paper, kitchen towels, paper tableware and facial tissue are set to see a better performance. We can expect the principal players to continue to invest in value-added options as well as the development of new areas in a bid to boost sales.

Companies should concentrate their efforts on developing new distribution channels as well as on diversifying their portfolio to include a full range of pricing options, given the inevitable entry and expansion of more economy level players.

Anticipated improvements in Chile's economy are likely to encourage small businesses to not only outsource their tissue needs, but to invest in high-quality products and premium variants. We can expect tissue players to continue directing more effort towards their AfH product development as this is one of the few remaining areas for double digit growth rates in value terms.

The level of maturity of the tissue market in Chile marks it as an outlier within the region but opportunities for growth within AfH are ripe throughout the region. Leading players should leverage their brand recognition into something more than just success in the retail market. Economic factors will continue to cause uncertainty in the region, especially within the AfH market, but we can be certain that Latinos will need as much tissue this year as they have at any time in the past.

Chile: in numbers

8.1Kg

Per capita consumption of retail tissue in 2014

1.7%

Volume growth in retail tissue in 2014

8%

Increase in AfH tissue in 2014

2nd

Lowest birth rate in Latin America

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By Tissue World magazine editor Helen Morris

'Our target – to give America something new'

With the start-up of the world's second NTT line in May, Chile's FPC Tissue (FPC) is used to thinking big... but to give the US market a premium, high-quality product it doesn't yet know it needs? Executives told TWM how they think they can do it.

Nothing quite prepares a visitor for the scale of achievement and ambition on show all around the impressive site of FPC Tissue (FPC) on the west coast of Chile.

On one side, views of mile after mile of source material forests. On the other, a stunning vista across the rolling waves out into the South Pacific Ocean – and one of the reasons why FPC's ambitions were never limited to Chile.

All very impressive, and then chief executive Guillermo Swett adds another of his surprises. We are in an area which is, as he puts it, "very prone" to earthquakes.

This, it turns out, is another detail which will not be allowed to stand in the way.

FPC started digging this tissue site in September 2013: "There's a lot of regulation here because this area is very prone to earthquakes, so it can be very slow progress. We have made the site earthquake-proof. And here we are, a year and a half later with a very strong building and a month away from start-up."

That Advantage NTT 200 tissue line will be running in May and the site's port will soon become very busy shipping 90% of its 60,000tpy jumbo roll production. To where? A tissue first in America is next in the business plan. "We want to put a tissue paper product into the American market that can't currently be found," Swett says. "Our strategy is to offer something different."

Juan Carlos Ruiz, tissue business director, is also with us and his eagerness about the project is equally infectious. Speaking in English, their enthusiasm to tell TWM

O Helen Morris

Editor, Tissue World magazine

Once production starts in May, 90% of the site's 60,000tpy will be exported to America

By Tissue World magazine editor Helen Morris

FPC's tissue business director Juan Carlos Ruiz (left) and chief executive Guillermo Swett

why they had to buy the NTT line and why they are taking on the mighty American tissue market means they can't help but speak simultaneously in their rush to get the news across.

A family-owned company, FPC was established in 1995 and the group now works in power generation, chemical manufacturing, entertainment and forestry, as well as being well established in manufacturing paper.

FPC can also claim a world first: the NTT line will be the first ever start-up of a 5.5m-wide NTT line (the first was a 2.6m line at Fabrica de Papel San Francisco (Fapsa) in Mexico). Swett jokingly adds it is also the world's first ever Valmet-supplied NTT line (Fapsa's was started up when the supplier was still Metso). Why NTT? "We need to offer something different," he says. "The focus is high quality, the premium end of the market is our target audience. We want to offer a different product from what you find in the rest of Chile, Argentina, Peru, etc. And crucially also offer the most valuable textured paper in the USA."

To put a different type of tissue machine into Chile would have been impossible: "In terms of efficiency it had to be NTT as we are looking to export 90% of our jumbo rolls into America and they need to be high quality. You can't go by yourself into a high level market. You must choose first class partners."

The reason for the focus outside of Chile and on America is two-fold: an opportunity to produce for a country needing a high volume of premium tissue products, and equally because of the dynamics of the Chilean tissue market. "The Chilean tissue market is dominated by CMCP … it has a big percentage of the market here and so our focus is not to sell into Chile."

"People in Latin America are starting to learn what premium is."

Guillermo Swett
FPC Tissue chief executive

The only way for FPC to be present in Chile is to have the NTT line and export out. "Globally, CMPC has the eighth or ninth spot. Kimberly-Clark is also very strong here in Latin America and America. So it's a big fight."

The company's strategy was to highlight product difference: "We have to show we are offering something different on the outside and on the inside. We want to put something into the USA market that can't already be found. It's a mature market there for premium products, 70% of people that buy tissue products are women and we are targeting a certain demographic of Americans that want this type of product."

Some 10% of the company's production will be supplied to the premium market in Chile, which Swett says is growing faster than the total demand. "Per capita consumption here is increasing fast. Chileans are asking for more quality, bulky, absorption… these parameters are becoming increasingly key as disposable incomes continue to rise and the economy continues to see stable growth." More and more people in Chile and the rest of Latin America are starting to ask where these products are: "People in Latin America are starting to learn what premium is. It's a strange situation … two ply is standard quality while three ply is seen as very high quality. We are trying to break this idea: we are telling the people with two ply you can have bulky quality paper."

To do this, he says FPC has "copied the Valmet example 100% across the whole supply line. We're also using 100% virgin pulp which is unusual here, and that forces us to put something different in at the

By Tissue World magazine editor Helen Morris

The site's new Futura converting line

high level with the best machine. Valmet can't fail and we can't fail."

Converting consists of a new Futura line, Infinity packaging, Elettric80 palletising and warehouse management who have the aim of becoming a world class facility.

Their initial idea was immediately to focus on private label in the US, but Swett says the high quality they want to target isn't always in this sector: "We have to start with our own brand and create a new category in the market. We will follow the rules of the market but produce the same quality at a better price."

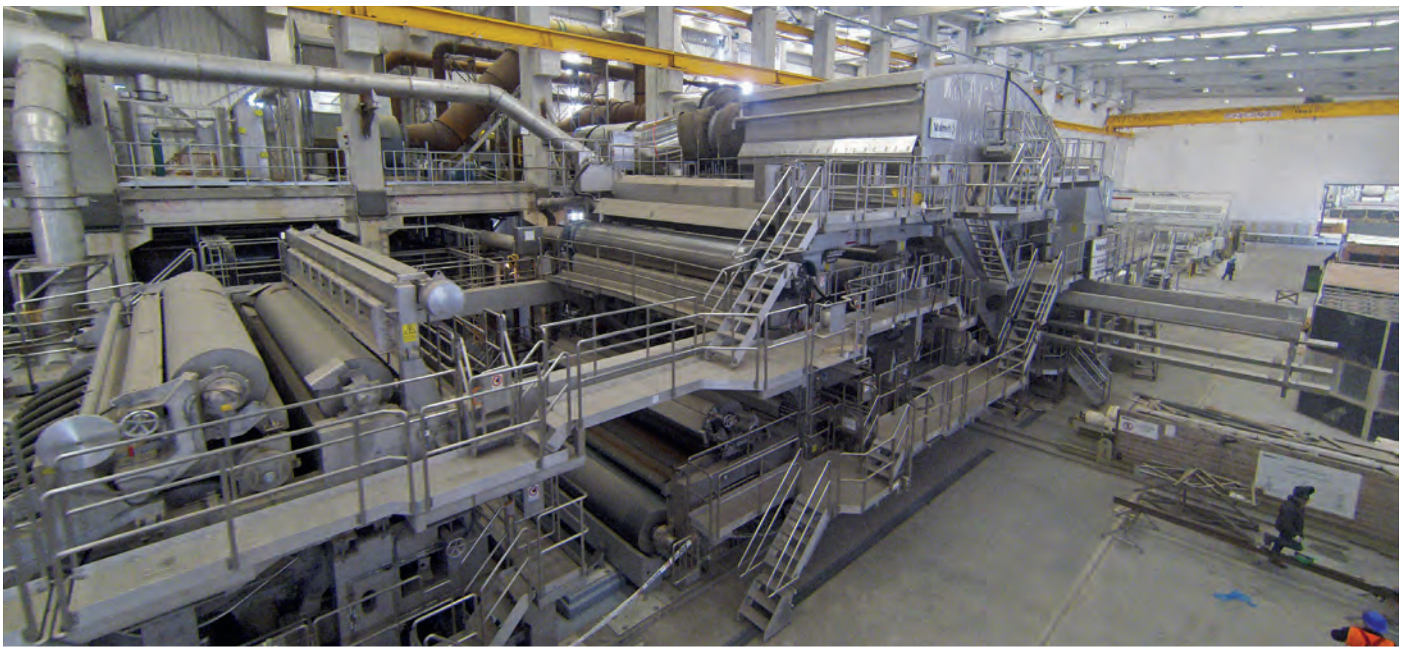
Energy costs are a concern: "Energy efficiencies and its origin are one of the most important issues for us. Gas and electricity are much more expensive here. This is another important issue for us going straight into NTT technology."

In 2006, the company's paper business invested in a biomass cogeneration plant following high prices and uncertainty of energy supplies, and a lot of this knowledge will be used for the TM supplies. Swett adds that most of the company's energy needs for the new machine came from non-conventional power sources (forestry and wood waste materials).

"When we have that category known, then we will continue to innovate and go into sectors such as private label."

The company is a small team of 70 staff in total, and another key strategy is to remain lean and keep innovating. Swett adds the business doesn't want to be a massive company because it will lose speed. "We operate very quickly and a big company doesn't operate quickly. We took a quick decision to acquire the NTT machine, we signed for it few months after the first meeting."

Instead, innovation will be key. He emphasises the business will focus on making the product look different and simpler, and says it will use the Latin American market as a platform: "When we have that category known, then we will continue to innovate and go into sectors such as private label. We'll always focus on the image and packaging and making sure what the customer finds inside is very high quality," Swett says. "So in the end, we won't fight on the price, the idea is to fight with quality."



World first: the line will be the first ever start-up of a 5.5m-wide NTT line

By Tissue World magazine editor Helen Morris

SCA's global business model finds a welcome and unique market in Chile

As Latin America's star economy, Chile is a well-developed and stable country where per capita tissue consumption reaches 10/11 kilos annually. Tissue World magazine editor Helen Morris meets SCA's Gonzalo Diaz

The volume of traffic on route from Santiago to SCA Chile's plant is evidence of just why the country has been a leader in the Latin American region for so long. Chile's economy has grown by around 5% a year since the late 1980s and if this area of Santiago - packed with plant after plant of the region's key manufacturing giants - is anything to go by, it will continue to do so.

In his office managing director Gonzalo Diaz speaks quickly and enthusiastically in English throughout our interview. SCA has been in Chile since 2001 for feminine protection products and since 2003 for tissue products with the Favorita and Tork brands. It purchased the remaining shares in Papeles Industriales S.A. (PISA) from its joint venture partner in 2012. Following that share purchase, SCA changed the company name from PISA to SCA Chile S.A.

In addition to SCA, CMPC, Kimberly-Clark, FPC Tissue and some converters participate in the Chilean Tissue market which combined is the fifth largest tissue producer in Latin America.

SCA has three PMs (supplied by a number of suppliers but primarily Voith), and converting production to supply finished products to the local market. It went out of the baby diaper market five years ago whilst also going into incontinence business with the Tena brand after seeing an opportunity for the sector in Chile's increasingly ageing population. Of the Tissue business, 60% are consumer products and 40% AfH. Mother reels are exported as a small additional to its business primarily to customers in Venezuela, Peru and Argentina. Diaz says SCA exports to fill capacity and this is a "functional sale, it's not the core of our business".

Helen Morris

Editor,
Tissue World magazine

"We have economic stability and so tissue consumption is regular and stable." SCA Chile managing director Gonzalo Diaz

By Tissue World magazine editor Helen Morris

One of the three PMs at the company's Santiago-based site

"Supplying locally here in Chile is our main focus."

The Chilean tissue market – like Chile itself – is unique amongst the rest of Latin America. The country – which from north to south extends 4,270km and yet only averages 177km east to west - has seen economic stability for many years. Transportation is efficient, and disposable incomes are high as the country sees its middle class increasing more and more. The route to market is also unique when compared to the rest of Latin America as Chile is made up of just three main supermarkets (the only international owned by Walmart).

"It's a very atomised market," Diaz says. "It's very well developed, both the tissue market and Chile. GDP is US$20,000 per capita, which makes it the richest country in this region. We have economic stability and so tissue consumption is regular and stable. Per capita consumption is 10/11 kilos per annum." Chile's 18m population is growing at a rate of just 1.5% and Diaz adds that people are having fewer children: "It's the same as in Europe, we have more old people than young people."

Diaz adds that AfH is more active in Chile than retail, "AfH isn't so old in Chile so there's lot of potential for us."

The global tissue market is growing at an annual rate of four percent. In Chile, CMPC has a tissue market share of between 70-80%. "Generally growth here is in line with the country's economic growth and so because we've seen economic stability and disposable income AfH has been growing very quickly, especially over the past three years," he says. "There's a lot of competition."

'Transportation is efficient, and disposable incomes are high as Chile sees its middle class increasing more and more.'

During the interview, Diaz references tissue markets in Europe and America as well as those markets in Latin America. Just how influential are these areas for SCA Chile? He says that prior to SCA buying into PISA, the company was a family-owned business that started AfH in Chile, having copied the model from Europe and America. While the business looks at the Mexican and Columbian tissue markets, for AfH "of course we compare and look at the trends in Europe and America".

He adds the business "very much follows SCA's global business model about long term sustainable growth." The business will grow through launching new products and being innovative. "That is key for growth here," he says. "It's about colour and quality and advertising. We are also strengthening our brands and aligning them with SCA's worldwide strategy: we don't have an aggressive growth strategy but we will continue to develop brands like Tork and Favorita to strengthen our position here. It's about value-added growth, not aggressive growth."

An example of value-added tissue, he says, is the company's incontinence products, which make up 10% of the Chilean market. "There is room for innovation. We're looking at

By Tissue World magazine editor Helen Morris

"We tried to launch a brown recycled paper like the USA AfH producers have done, but it wasn't popular. People in Chile value whiteness."

The site's converting production supplies finished products to the local market

scented tissue, etc. And our brand is more economic in focus now, for example our two ply brand Favorita." The business also launched recycled two ply products last year after it observed the market demand moving from one to two ply. "People want a softer product so we are responding to that," he says. "Two ply here now is good quality. Of course in Europe three, four and five ply are softer, but compared to the rest of Latin America it's a good quality product and it's affordable for Chileans."

He says FSC isn't so popular: "People are slowly becoming more aware of it but they're not willing to pay more for it. People here value whiteness, they see it as cleaner .. we tried to launch a brown recycled paper like the USA AfH producers have done, but it wasn't popular. People here value whiteness."

Diaz adds there's no need for the business to invest in another machine: "We will take advantage of SCA's global scale and efficiency," he says. "We're very aligned with this strategy and growing in emerging markets in a stable way.

One of our main challenges is to gain market share in incontinence: "The population is growing older here and incontinence is a key opportunity for SCA who is the leading player in this category globally. We also want to be stronger in terms of branding and strengthen our Tena, Tork, Favorita, brands through innovation."

Efficiency is also key: "We need to be as energy efficient as possible, not just in terms of our machines. This is key because energy here is very expensive as Chile doesn't have oil or coal as a country, so energy costs are very high."

"We will continue to develop and build the SCA global brand here – we have a family-owned history which isn't common in Chile," he adds. "Latin American culture is very different from Europe's so SCA's values are good to have here. Their mentality is very stable and so we look at the long term and take things step by step."

Efficiency is key: "We need to be as energy efficient as possible, not just in terms of our machines."

TWM helps Wesley open 'a Pandora's box' of issues with his family tissue use

Born in the UK, Wesley Sawkins talks about his preference for bulk buying, his scepticism on presentation and corporates, and his experiences of living in Singapore

TWM/1 What tissue paper products do you use?

"Until I gave this some thought for this interview, I hadn't realised just how much tissue our household uses. In some ways, now, I wish I hadn't been given the opportunity, as I have sort of opened a Pandora's box (see Question 4!)

"Besides the obvious candidates like toilet paper, we use kitchen roll, wet wipes, kitchen surface wipes, polishing wipes, stain removers, shoe polishers and floor cleaners, facial wipes and hand towels, I'm sure there are more. In terms of why we use them, I guess the uniting theme is one of sanitation, but that doesn't capture it all: surface wipe products are specially designed to attract certain types of particles and so are labour saving. Wet wipes aren't strictly necessary but are more of a luxury. Often the alternatives to tissue, where they exist, are more time consuming or awkward, and to that extent reflect the modern desire for the convenient and disposable."

TWM/2 Do you stick to particular brands?

"Branding is not important for us in the more boring aspects of tissue. Typically we will buy bulk and (in the UK) the supermarket's own brand (albeit the best of their range) for toilet tissue. For the more esoteric products, we will have no doubt been convinced to buy them by advertising and branding. So Flash cleaning wipes and Simple facial towels are generally bought by us because the brand is part and parcel of the product and has informed our need for them."

TWM/3 Is price more important when buying these products or is quality, or both?

"I think the answer to this follows the same pattern as the answer to the previous question. Typically branded is more expensive and so will be chosen for the more specialist type of tissue product in our house."

TWM/4 Is it of importance to you if the product is environmentally friendly?

"Regrettably this doesn't play enough of a feature. This is partly due to a natural scepticism we have about presentation and corporates. When a manufacturer tells us they plant two trees for everyone one they take down, I haven't taken the time in the past (maybe I should have) to check up on their claims; but I also wonder if this really justifies the pricing point differential against cheaper brands who remain silent on the issue. Generally, however, I believe our move to using tissue more widely in our house is itself an environmental issue we, as a family, haven't yet really come to terms with. Naturally recycling

isn't an option so we will have to take a serious look into how the tissue is made, transported and packaged and whether we really need it in the first place."

TWM/5 What have you noticed about tissue habits when you've travelled abroad?

"When I lived in Singapore, for toilet paper it was always buy in bulk and cheap. No frills, just always there. It's never a good idea anywhere, but you definitely never want to run out of toilet tissue in Singapore – bidets typically aren't a feature of bathrooms there, the most you'll get is a hose by the toilet.

"But I did resort to luxury for some items. For my face I found myself buying little packs of scented, refreshing tissues. These were marvellous in the hot climate and just the ticket for a walk along Orchard Street or in the Botanical Gardens.

"Singapore has embraced the fully flushing toilet. In countries which haven't, the use of toilet paper gives rise to difficulties. Where the sewage infrastructure of a country doesn't permit its flushing away, you are politely reminded to use the bin for soiled tissue paper. I've seen this in some countries in Asia and Southern Europe. On the other end of the scale are the high tech toilets in Japanese hotel chains. These, you would think, would do away with the need for toilet tissue. There's always tissue paper to hand, however; it will be some time yet, if ever, that we won't be reaching for that roll."

TWM/6 How do you buy your tissue products?

"These days we buy in bulk and on the Internet for convenience and price, even if delivery charges make any savings marginal."

By FOEX Indexes' **Lars Halén** and **Timo Teräs**

PIX Pulp indices 24.3.2015

NBSK pulp Europe

UTIPULP (the group of European market wood pulp users) published the market pulp consumers' consumption data in March, which was down by 1.8% from February for the total. However for BSKP, the retreat was much bigger at 6.7%.

Consumers' market pulp inventories were up from end January by 13,000 tonnes, or by 2.2% but down for BSKP by 2.9%. European port stocks fell by 50,000 tonnes from the end of January but they were still very marginally, or by 0.8%, higher than at the end of February 2014.

Weak demand and dollar strength maintain the downward price pressure in softwood in Europe as well as in other markets. The strengthening of the US dollar by 0.2% last week from the previous week's average brought additional downside pressure on pulp prices in USD terms and kept the prices in euro moving upwards.

Our PIX NBSK index value fell again, this time by 1.54 dollars, or by 0.17%, and closed at 880.73 USD/tonne. Due to the moderate fall of the Euro against USD with last week's average exchange rate, the benchmark value in Euro moved up by 50 euro cents, or by 0.06%, and the PIX NBSK index value in euro ended at 827.21 EUR/tonne on 24 March.

BHK pulp Europe

In BHKP, market pulp consumption in Europe in February was up against February 2014 by 1.7%, according to UTIPULP statistics. Also, the inventories of hardwood pulp at consuming mills were marginally down from a year ago but from end January 2015 the stocks were up by 20,000 tonnes, meaning a hike of two days of consumption.

Prices have been still edging upwards, however. One reason is the maintenance downtime wave which takes out over 250,000 tonnes of production in Brazil. Downtime is taken also in Europe, e.g. by ENCE. Our BHKP benchmark moved up this time by 46 US cents, or by 0.06%, and closed at 756.70 USD/tonne. The value of the Euro had depreciated by 0.2% against the US dollar (weekly average). When converting the USD-value into the weaker Euro, the PIX BHKP index value in Euro headed higher by 2.10 euro, or by 0.30%, and the 24 March benchmark closed at 710.72 EUR/tonne.

Lars Halén | **Timo Teräs**

Senior manager, FOEX Indexes

Managing director, FOEX Indexes

Paper industry

The rising optimism in the economic outlook over the US and European scene is counterbalanced by the struggling of many emerging economies. This is felt also in the paper industry where consumption of paper and board within the developing countries and exports of paper and board to these markets have shown declines or, at least, slower growth than in the past. This translates into pricing pressures as well, also in the exporting regions, such as Europe when production volumes are pressed to the regional market.

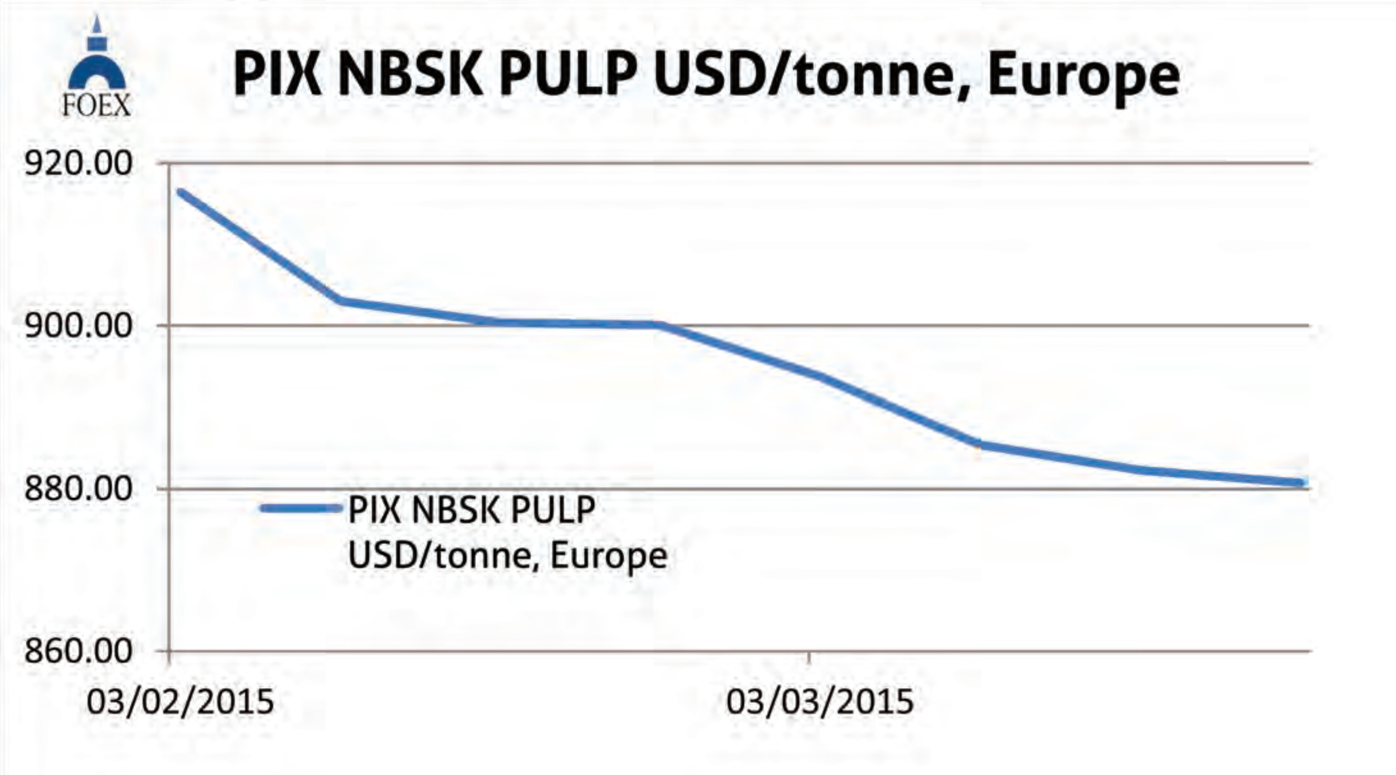
The first data seen over the paper and board markets is, once again, on the weaker side. European paper makers' pulp consumption was down by just under 2% indicating lower volumes of paper production as well.

US containerboard and box shipments may have been affected by the weather. Box shipments were OK but containerboard numbers were a bit weaker than expected and, in addition, inventories moved up more than the seasonal norm. European paper prices have shown further retreat in Q1 2015.

'Consumption of paper and board within the developing countries and exports of paper and board to these markets have shown declines or, at least, slower growth than in the past.'

By FOEX Indexes' **Lars Halén** and **Timo Teräs**

Source: FOEX Indexes



FOEX Indexes produces audited and trade-mark registered PIX price indices for certain pulp, paper packaging board, recovered paper and wood based bioenergy/biomass grades. The PIX price indices serve the market in a number of ways. They function as independent market reference prices, showing the price trend of the products in question. FOEX sells the right to banks and financial institutions to use the PIX indices for commercial purposes, while RISI Inc. has the exclusive re-selling rights for subscriptions to the PIX data and market information. Please enquire for subscriptions at foexsubs@risi.com or via the following link www.foex.fi/subscribe/

Tissue papers are produced either from virgin fibre, recovered fibre and various mixes of both, depending on the end product. High quality hygiene tissue products like medical tissue products, facial tissues, table napkins or other such household and sanitary products are often made exclusively or almost exclusively from virgin fibre pulp, whereas the share of recovered fibre typically increases in tissue products for a variety of end uses outside personal hygiene, such as kitchen towels or towels for garages or other such industrial production facilities etc. Providing PIX pulp price indices gives the paper producer and buyer insight in the price trends with a weekly frequency. PIX indices are used as market reference prices e.g.

- by banks or exchanges that offer price risk management services for pulp buyers and sellers

- by buyers and sellers of pulp or paper in their normal supply contracts

- companies who want to employ an independent market reference price for internal pricing (e.g. pulp mill – paper/paperboard mill, paperboard mill – box plant) through licensing the commercial use from FOEX.

In addition, our price indices are widely used in financial analysis, market research and other such needs by all kinds of parties linked directly or indirectly to forest product or wood-based bio-energy industries.

This way the companies have better tools to budget their cost or income structure and profitability, and may concentrate on their core businesses with less time spent on price negotiations, which tend to increase in these days as the planning span narrows in the wake of the short, quarterly business cycles and, nowadays, in most cases, monthly raw material pricing decisions.

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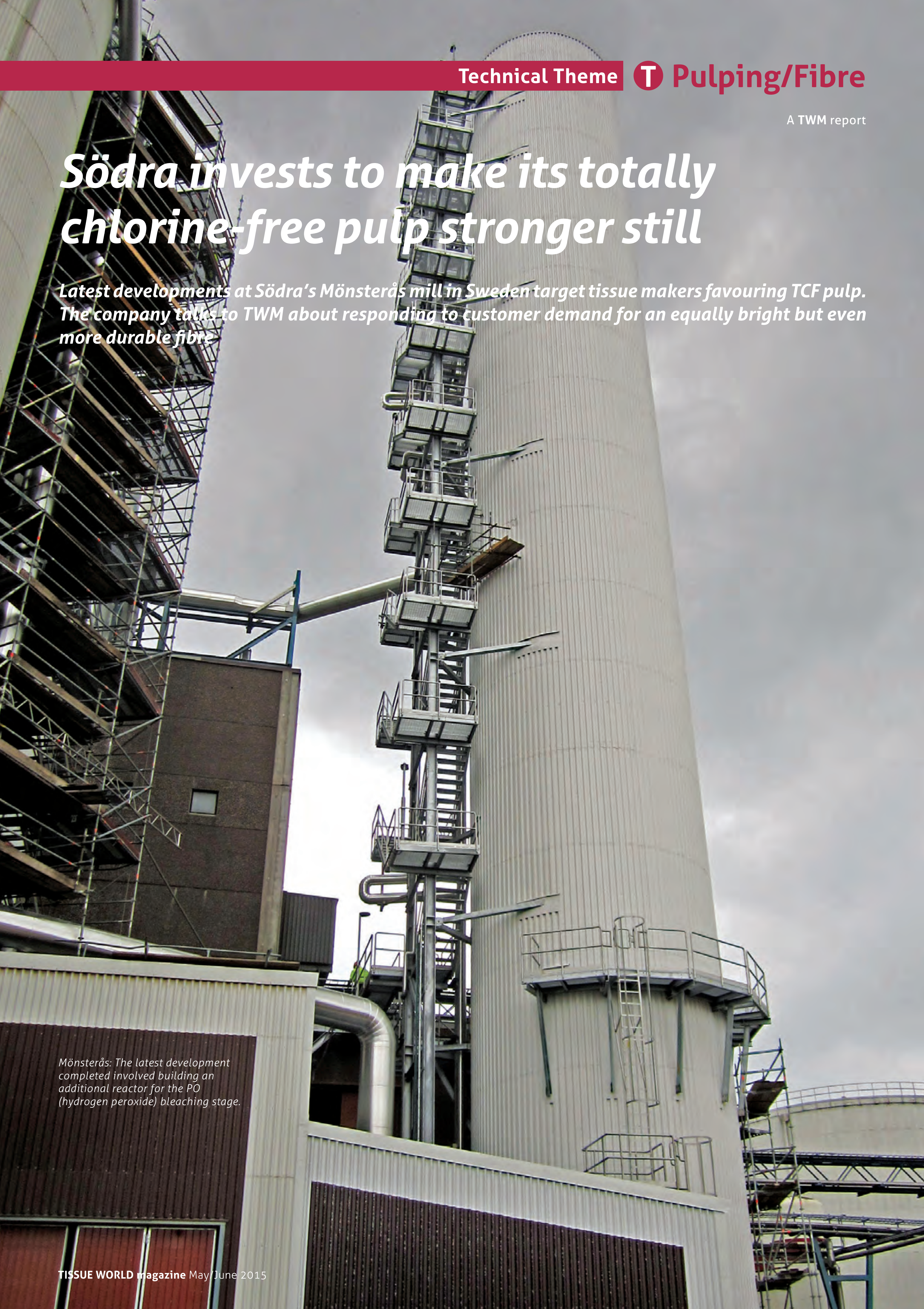
A **TWM** report

Södra invests to make its totally chlorine-free pulp stronger still

Latest developments at Södra's Mönsterås mill in Sweden target tissue makers favouring TCF pulp. The company talks to TWM about responding to customer demand for an equally bright but even more durable fibre



Mönsterås: The latest development completed involved building an additional reactor for the PO (hydrogen peroxide) bleaching stage.

A **TWM** report

Ever since it was a pioneer of TCF (totally chlorine-free) bleaching in the 1990s, Södra Cell Mönsterås has been refining the process. TCF pulp might be quite rare, but it is still required by many tissue customers, particularly in Germany. As the company's marketing director Marcus Hellberg says: "If the customer's customer has a specific requirement, we have to do our best to meet it. And if that means an even stronger TCF pulp, that's what we will do."

A strategically-important investment at Mönsterås is aimed at providing just that: an equally bright but even stronger TCF pulp. Hellberg says: "In financial terms, the investment is relatively small but it is significant: the proportion of softwood pulp in the tissue mix is now typically smaller than it was a decade ago and so the characteristics of the remaining softwood are more important than ever."

While Mönsterås (the company's oldest mill, founded in 1958) will not see its output increase significantly during the current round of major investments, it will remain the largest of Södra's three mills in terms of capacity at 750,000tpy. A SEK 4 billion expansion will put Värö not far behind at 700,000tpy, increased from 425,000tpy, while the SEK 700 million invested at Mörrum will bring the latter up to 320,000tpy from 250,000tpy. Overall, TCF will still account for almost half of the company's pulp capacity in 2017 when the current projects have started up. Total pulp capacities will be approximately 815,000tpy for TCF and 915,000tpy for ECF (elemental chlorine-free).

A gentler process

TCF is a more challenging process than ECF. However, Hellberg says the chlorine-free bleaching process adopted by Södra has proved to be somewhat gentler than that of its competitors. "Feedback from customers suggests that the TCF process Södra uses is less aggressive than others, so the pulp structure is less affected," he says.

Karin Dernegard

Technical process manager, Södra Cell Mönsterås

In the latest development of the process, the project just completed at Mönsterås involved building an additional reactor for the PO (hydrogen peroxide) bleaching stage. This is the last brightening stage in TCF bleaching, and in this case Andritz was the supplier.

The company's Värö site also produces TCF and has managed to achieve the required brightness at a lower temperature without creating a bottleneck. Mönsterås' technical process manager Karin Dernegård says it is a very gentle, strength-preserving process, but without any process issues: "For tissue, and all paper grades, everybody wants high tear and tensile. The new reactor will improve both these critical parameters. The new PO stage, comprising an MC pump and a reactor, will also give us the opportunity to control variation even more effectively than before, and this will be good news for tissue makers."

"Feedback from customers suggests that the TCF process Södra uses is less aggressive than others, so the pulp structure is less affected"

Good for strength

Although the new PO reactor is up and running, its full potential will not be realised until a new wash press is installed by Valmet later this year, which Dernegård says will have positive implications for strength: "It will increase the reliability of the washing stage, reduce metals and allow us to get the full benefit of the bleaching improvements."

This latest investment at Mönsterås reiterates that Södra is committed to making the best quality TCF that it can through a process aimed at minimises chemical consumption, effluent load and energy and creating a high-quality bleached pulp with minimal environmental impact.

Mönsterås hopes that for the significant minority of tissue makers for whom it is important to claim a totally chlorine-free raw material, these developments will come as welcome news.

A **TWM** report

NBSK... keeping the industry's benchmark pulp at the highest grade

From the mighty pines and spruce of British Columbia to the tiny crill from wood chip particles - Canfor Pulp's Innovation director Paul Watson and scientist Paul Bichot tell TWM about the intense and on-going focus on quality control.

Maintaining and continually upgrading important properties in fibre quality are vital to achieving the necessary results for tissue makers. At Canfor, we have a unique fibre source - consisting principally of chips from sawmills that produce wood products for building - and use appropriate processes with an emphasis on quality control. The wood supply is from an area in the interior of British Columbia which has a short growing season and this results in long, thin walled fibres, and these slender, low coarseness fibres conform easily.

These are important properties for tissue makers, especially when tissue is produced using wet shaping on the tissue paper machine or employing elaborate embossing in converting that involve different patterns and depths.

In these bulk and absorption generating processes, long and flexible fibres are desirable in order to maintain the strength of the tissue sheet. The amount of long fibre can be minimised as Canfor Pulp NBSK delivers a high strength with minimal refining. As a result, it is possible to use more hardwood in the tissue furnish and reduce cost while having a positive impact on tissue properties such as bulk (or caliper) and softness.

Technical "know how" and its constant application is a vital requirement to stay competitive. Canfor Pulp Innovation uses an "open innovation" platform with a number of partners (including AFT FineBar, Voith, Buckman, Pulp Eye, the University of British Columbia, FP Innovations and research company Innventia). The research areas comprise pulp preparation and refining, pulp quality and control, tissue quality and processing efficiencies as a function of fibre input and internal kraft pulp process optimisation.

We support tissue customers with analysis and testing in our facilities as well as in their tissue mills. Often this involves looking at final tissue quality in relation to the furnish and furnish preparation, as well as how it affects process efficiencies. In order to simulate the response of refiners that are actually used in tissue mills, refining at Canfor Pulp Innovations is done on a pilot disk refiner rather than the laboratory PFI mill which, owing to its extremely high energy and low intensity fibre treatment, does not generally deliver results that are representative of industrial applications.

In a study into online pulp quality monitoring systems in the Mihari (Japanese for "watchguard") project, the key technologies covering the pulp making process are the PulpEye developed by PulpEyeAB and the Quality Vision System developed by Metso. The objective of these systems is to enable better control of the pulping process in order to improve pulp quality and to supply more precise pulp quality data to the customers on a per shipment basis. It is common practice for pulp suppliers to base the pulp quality factors and averages for longer periods of time, which are often not representative of delivered quality. The pulp lot that is received by a customer may deviate from the long term average as often the pulp quality of a lot is not considered by the customer, and so he will adjust process conditions after the fact. In preparation for the delivery of per shipment pulp quality data on-line a smart phone with a scan app can now be used to access the average pulp quality over a three month period.

Director Paul Watson (left) and scientist Paul Bichot

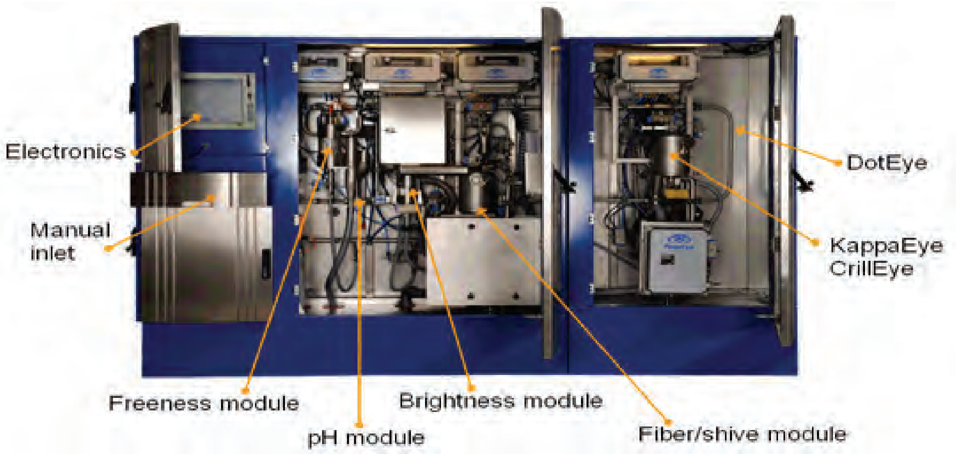
Fibre properties on the level of the individual fibres are time consuming and expensive to measure, even in a laboratory setting. Canfor Pulp Innovation has installed a PulpEye system dedicated to the development of the next generation of fibre properties measurement. Two measurements that we will soon employ in our kraft mill online measurement system are the measurement of crill and the measurement of fibre wall thickness (FWT).

The crill measurement was previously developed by Innventia and Pulp Eye. "Crill" is described as very thin particles (fibrils) that are partially or completely loosened from the fibres and are about 100 times thinner than the fibres. The portion of crill in a low consistency refined pulp, commonly used in tissue making, is small. By weight it can be only 1%, however it has a disproportionate positive effect on fibre bonding and paper strength.

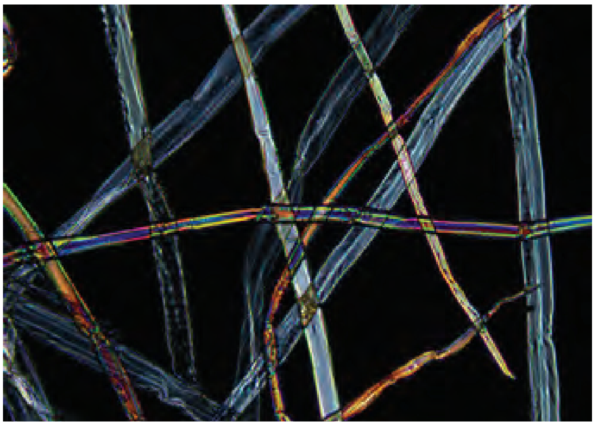
A **TWM** report

Micrograph of unrefined fibres

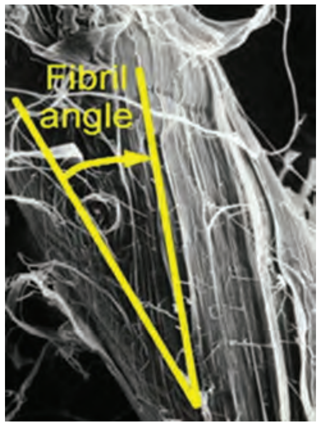
State of the art in pulp analyzer and control technology



Micrograph of LC refined fibres



Fibre images in a dark field circular polariscope



Fibril angle

The measurement, performed with the OptoCrill module and software is based on the comparison of two optically measured surface areas, using light of different wave lengths. The total surface area of fibres and crill is measured with UV while the total surface area of the fibres only is measured with IR. This is a direct measurement, no image analysis is performed, so the measurement is extremely fast. The crill ratio can be expressed as the surface area of fibres and crill divided by the surface area of the fibres. The OptoCrill is integrated in the Pulp-Eye system and is being used by Canfor Pulp to assist with the development of on-line tensile strength predictions.

State-of-the-art in pulp analyser and control technology

In close collaboration with partners PulpEyeAB and FPInnovations, we have recently developed an on-line fibre wall thickness measurement module. The tissue maker familiar with coarseness knows that it depends on the cross sectional fibre area, the fibre width and the fibre wall thickness.

The fibre wall thickness gives more information about a pulp than just a coarseness value, in measurement with various pulps a good repeatability and separation was found. Importantly, unlike the coarseness measurement which is an average value, the fibre wall thickness module delivers wall thickness distribution data.

Of particular interest to the tissue maker are the differences in the wall thicknesses of various hardwood pulps, even between fibres of the same species like eucalyptus. Thinner walled finer and low angle fibril angle fibres make a stronger sheet with a smoother surface, and these are desirable properties for tissue producers.

Fibril angle

The basic concept of the fibre wall thickness measurement is based on the double refraction in anisotropic materials, whereby the colour correlates with fibre wall thickness and fibril angle. The mapping from colour to fibre wall thickness and fibril angle is defined by a complex non-linear function, for which solutions were found. The easily accessible and more precise pulp quality data will help tissue producers determine and set process conditions for the desired quality tissue base sheet.

Bleached pulp properties

Calculator

By Svetlana Uduslivaia, head of tissue and hygiene industry at Euromonitor International

Global retail tissue in 2014: a diverse and dynamic marketplace

The global retail tissue market continued to show a healthy growth in 2014, achieving US$77bn in sales (2014 constant value, US fixed exchange rate). Not surprisingly, developing markets led the growth, with China – now outselling the US in retail tissue volume – adding another US$572m in sales between 2013 and 2014. On the other hand, the developed markets of North America and Western Europe continued to show signs of maturity and slow growth. In volume terms, the global retail tissue market increased by 3% in 2014, over 2013.

Chronicles of regional developments

Favourable demographic trends, rising incomes, improved infrastructure, and product innovation ensured strong positive consumer demand for tissue products in the developing markets. Diversity of cultures, traditions, and politics also played a part in 2014 performance.

In the collage of Latin American markets, Venezuela stands out as having seen one the biggest jumps in retail sales of tissue in 2014, recording a 12% growth in volume terms. However, the government actions and a rise of a black market were the contributing factors in such a stellar performance. Consumer fear of product shortages amidst ineffective government policies inflated the demand and encouraged local "bachaqueros" to purchase in bulk in legal channels for re-sale at a premium on the black market.

Brazil

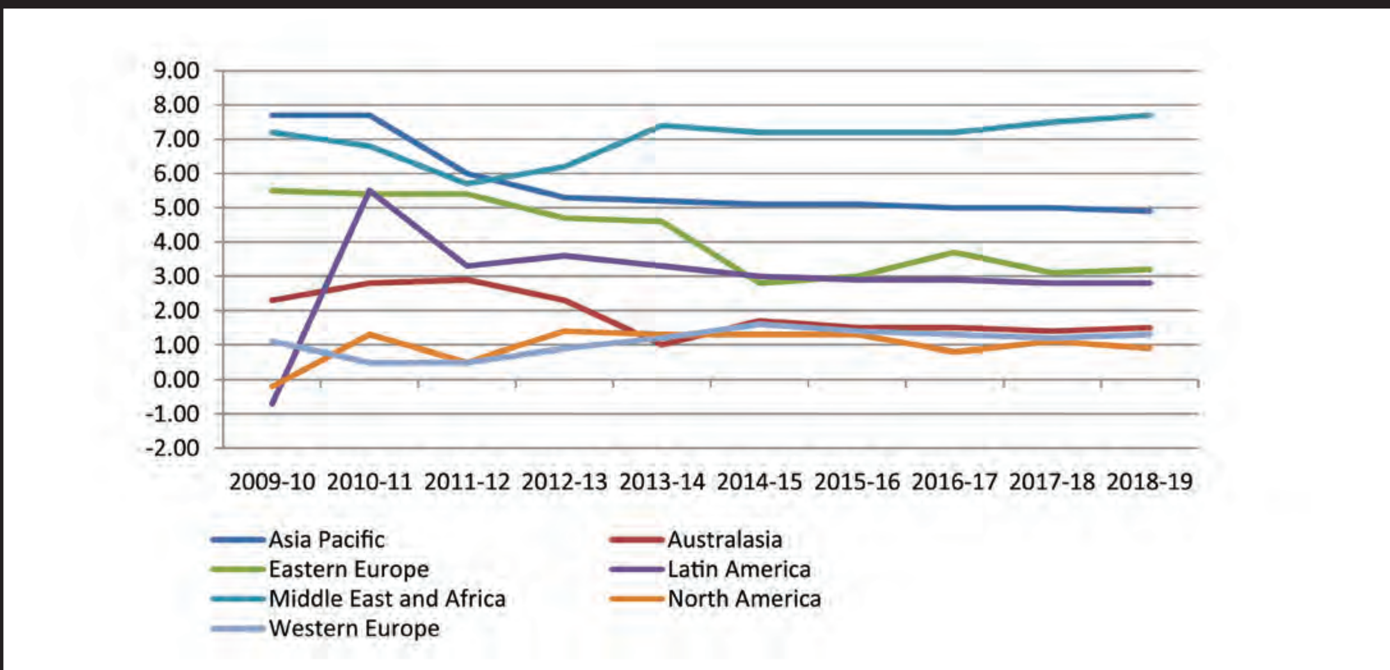
Svetlana Uduslivaia

Euromonitor International's
head of tissue and hygiene industry

Already the fourth largest tissue market globally by value and volume, Brazil continued its positive trend. Over the past few years, Brazilian retail tissue became more sophisticated offering added value to consumers. Rising income levels afforded consumers the possibility to choose from a wider range of products and to opt for increased quality, comfort and practicality. Household penetration of products considered to be superfluous by many Brazilians, such as napkins and kitchen towels, is increasing, and these are more frequently found in consumers' shopping baskets.

Asia, Middle East and Africa

Asian markets, the Middle East and Africa continued to witness growth in 2014, supported by rising incomes as well as expanded product availability and affordability.



Retail volume growth from around the world

By Svetlana Uduslivaia, head of tissue and hygiene industry at Euromonitor International

However, this growth was not without hiccups. China for instance, while maintaining a positive growth trajectory, faced the issue of oversupply due to rapid expansion of domestic production. Subsequently, 2014 saw the Chinese government take actions to curb production and to implement stricter environmental standards, which led to the closure of a number of mills and further market consolidation in the country.

Developed world

The developed world continued to grapple with market saturation, further exacerbated by slow population growth. These tendencies resulted in only modest increases seen in North America and Western Europe in 2014, both regions recording only 1% increase in volume of retail tissue. Adding value and developing premium quality products have become an important strategy for growth in mature markets.

Modern versus traditional retail channels

While modern grocery retailers account for a larger portion of the retail tissue distribution in developed markets and have been capturing a bigger share of sales in many developing countries, traditional small retailers/small independent grocers remain a key distribution channel across a large number of developing markets.

For instance, in India, independent small grocers accounted for close to 63% value share of retail tissue sales in 2014. In Bolivia, traditional grocery retailers still accounted for as much as 75% value share of retail distribution in 2014. In Nigeria, the share of traditional grocery retailer stands at 72%.

'Retail tissue will continue to see healthy growth ahead... but some of the roaring engines of that growth like China and Brazil are expected to show signs of slowdown.'

Understanding the role of traditional retailers, their supply chain, their capabilities and preferences and their customer base is an integral part of any successful strategy aimed at boosting sales and household penetration beyond mid-to-high income consumer base of major urban areas.

Lack of modern retailers in rural areas and by contrast proximity of small independents to consumers' homes and neighbourhoods, personal relationship established with the owners of the stores (and a result often informal credit granted to customers of long-standing), competitive prices and smaller packaging to meet tight weekly budgets, are among the factors that work in favour of small retailers. Many of them have also been investing in improved store interior and product selection to ensure long-term survival in the face of expanding modern retail.

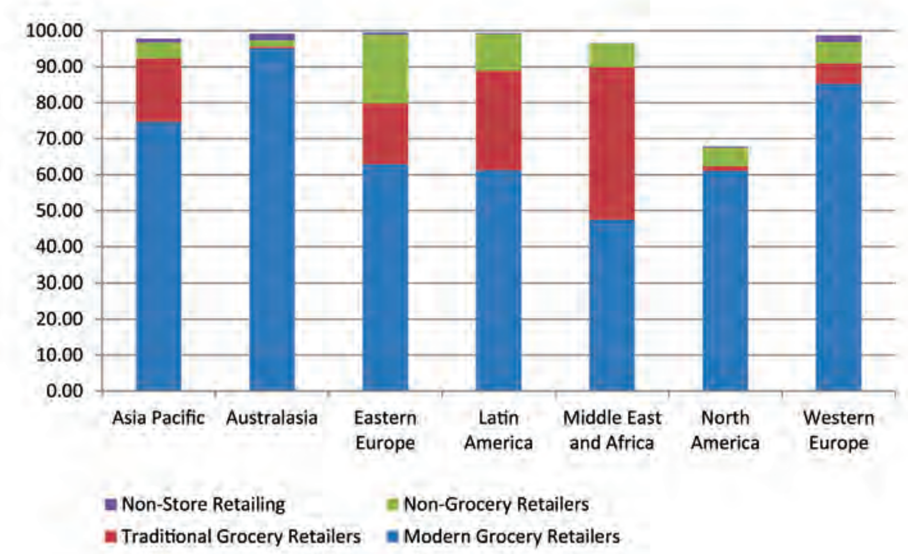
Growth ahead

Retail tissue will continue to see healthy growth ahead, with developing markets as main engines of growth. However, some of the previously roaring engines are expected to show signs of slowdown, including key markets like China and Brazil.

A number of key items will remain on the agenda of the tissue industry, namely: production oversupply and further market consolidation, search for alternative resources and "green" options to compliment or replace wood pulp and compensate for expected dwindling supply of recycled fibre, developing wider range of affordable products and packaging sizes to drive household penetration in developing markets and product sophistication to drive revenues in slow moving developed markets.

The global tissue marketplace is a good place to be and diversity of consumption patterns across markets provides a good ground for growth opportunities ahead.

However, the market comes with its share of risks and challenges. Assessing carefully and realistically current state and future potential in each market, understanding local needs and priorities, understanding local retail distribution patterns (including traditional retail) will help to ensure long-term success.



Retail channel percentage value share by retail format

RETAIL SPECIAL: Recession as a springboard for private brand growth, purchasing power trends, modernity...

TWM takes a look at some of the talks from Tissue World Barcelona's Tissue Retail & Distributor Insight Forum (TRIF)

World tissue - development, normalisation, modernity and the middle class trap

Ian Bell, head of home care, tissue and hygiene research, Euromonitor, UK

The challenge for the industry is how to get its particular genie back in the bottle, reverse seemingly engrained behaviour, make the ubiquitous relevant whilst at the same time fostering interest in new areas while preserving the old or established.

How can tissue sustain, develop and avoid the middle class trap all at the same time? This presentation looked at global tissue in the context of 'development stages' with an accent on the future.

Fernanda Accorsi, cofounder - trade marketing and retail specialist, noFish

Make tissue innovation relevant: more engaging to the shopper

Fernanda Accorsi, cofounder - trade marketing and retail specialist, noFish, Spain

Point-of-sale (POS): not just the end of the chain, when brands make efforts to be placed in the shopper's cart; but it is also the first opportunity to engage with consumer.

What really matters to the shopper? Depends which generation you belong to...

Baby Boomers: 1946-1964
Purchase behaviour:
Reluctant/resistant to change
Loyal shoppers and consumers
High purchasing power
Quality oriented
The new social media members (the fasted growing segment on twitter)

Consumption insights (lifestyle): fitness facilities, personal trainers, nutritional
supplements, spas, alternative medicine.

Generation X: 1965-1989
Purchase behaviour:
Are not swayed by flashy advertising (scepticism)
Extreme brand loyalty once they trust
Consume several media channels
Seek product information
Diverse online habits – the first generation to experience the internet as part of their daily lives
Like to research while shopping online

Lifestyle consumption: paychecks on luxury items (compared to Baby Boomers)

Generation Y: 1980-2000
Purchase behaviour:
Like aspirational brands/ intuitive performance and customised products
No brand loyalty – like to try
Omnipresent connectivity
Influenced by friends (word-of-mouth)
Recommendation online is a viral habit
Bloggers and Vloggers develop reputation

Lifestyle consumption: passionate about politics and the concept of 'improving the world'. They love companies that make a difference – not just sell a product.

Generation Z: 2000+
Purchase behaviour:
Products/ messages must reflect a reality not a 'perfect life'
Products are more important than brands
Generation of Customer Service
Open-minded and adaptable
Digitally over-connected
Conversations already start online.
(Digital Natives – born into a digital world)

Lifestyle consumption: 38% say they make most of their purchases online; They want to change the world (much more than 'the millennials').

Source: Northeastern University (2014)

They are all purchasing together! Some categories are hard to engage. We sell tissue ... how to do it?

Some categories we love as shoppers and consumers and some categories we just don't care so much about are normal.

POS is an opportunity to talk to the shopper. The easier we make shopping for our customers, the greater their satisfaction:
Package (jumbo packs)/claims
Try/experiment
Temporary campaigns
Link POS and social media
Cross-channel/cross-merchandising

Practical, sustainable, comfortable, fashionable.. Can we make it simple?

The State of Play for Private Brands

Kit Vale, global director of business development, Daymon Worldwide, USA

Why are consumers moving from national brands to private brands for household paper? The private brand paper industry is a $77+ billion business and growing fast.

Through the lens of the consumer, we have explored key purchase drivers, shopping behaviour, attitudes and important trends. From a retailer prospective, we explore best in class activation.

The Marketing 4 "P's" approach helps to explain why private brands are no longer the generic alternative to a consumer's household paper needs.

Total global tissue growth

Global tissue sales $77.2bn. Tissue sales have increased by $20bn over the past seven years, a 35% growth. In the next four years, growth is projected to increase by $30.7bn.
Over the past seven years, private brand (PB) growth has been 26%.

In Europe, 89% of consumers have increased their purchasing by 15% due to the belief that PB have equal or greater quality than National Brands (NB).

For PB, Western Europe is clearly the leader in sales. North America trails by approximately half with other regions considered emerging markets

Recession Periods = springboard for PB growth

PB are becoming destination brands with 50% of consumers globally stating availability of PB and the quality and range of products are key factors in deciding where to shop.

Globally, 65% of consumers find PB to be as good as NB. Some 71% of consumers say their perception of PB quality has improved over time.

70% of consumers purchase Private Brand to save money with 67% of consumers saying Private Brands are usually extremely good value for money.

(Source: Nielsen, "The State of Private Brand Around the World", Nov 2014)

Private brand appealing to wider audiences as proposition changes

PB are becoming destination brands.
Regional results shows that Emerging Markets are growth opportunities

Innovation: key driver for PB

Innovators remain on-trend while balancing quality and cost restraints. Innovation drivers: Improving perceptions, affordable innovation, demographic specificity, expand tier system

Convenience is a key macro trend for consumers. Time and simplification are key.

Retail activation: Point of Sale
Product Features lead 44% of social media conversations.

Retail activation: Promotion online and in-store

Private Brand will innovate ahead of market, anticipating consumer needs.

Become more reactive in less mature markets, moving away from the "cheaper than" proposition.

In strong markets, PB will be positioned alongside brands, becoming "exclusive brands" in their own right. As a result, greater investment will be seen in higher pricing tiers, while maintaining the value option.

Private Brand will work alongside national brands in a mutual playing field. Their interaction will ensure that all consumer needs are answered by "filling the gaps" where brands are lacking, in terms of both value and innovation.

Highest potential for PB growth is in emerging markets. In developed markets, where PB has smaller penetration (e.g. Australia and New Zealand), focusing on trust-building efforts and greater understanding of consumer demands by retailers will lead to growth.
Source: Nielsen, "The State of Private Label around the world", Nov 2014; Datamonitor, Consumer Insight, Sept 2014

Himanshu Pal, director of retail insights, Kantar Retail

Retailing 2020 and beyond: capabilities needed to ride the perfect storm

Himanshu Pal, director of retail insights, Kantar Retail, UK

The current retailing environment represents a 'Perfect Storm' with all elements (from countries, consumers, channels and customers) in a state of flux and faced with multiple disruptions.

The session provided a perspective on these disruptions, their impact on your businesses and capabilities needed to ride this perfect storm.

Retailing 2020 and beyond

Capabilities needed to Ride the Perfect Storm: Organisational performance, retail and channel insights, shopper insights, go to market, sales process automation, retail and purchase data analytics, retail virtual reality.

Country: Disruption – balance of power shifting away from mature markets and in favour of emerging markets

Share of global tissue market:
North America: 31%
Western Europe: 21%
Eastern Europe: 5%

Country: Implication – where and how will you drive incremental growth in sales and profit?

Tissue consumption per capita per year in Eastern Europe is only 1/4th of that in Western Europe

Country: capabilities needed – develop / reassess emerging market strategy based on market dynamics

Focus on category innovation to drive incrementality (growth, profit and ROI)

Consumer: Disruption - changing shopper profile
Have vs have nots (£ € $)
Ageing vs youth
Multi-ethnic
Urban
Digitally dependent
Capabilities needed – successful retailers and suppliers will deliver higher returns on shopper investment

Consumer: Capabilities needed – category and brand plans need to be based on shopper-first principle
Different strokes for different folks – Premium brands vs Economy variants of A-brands

Age-specific products/packaging. Collaborate with customers to enhance shopping experience

Target new purchase and consumption occasions. Tailor pack size and format to better service immediate consumption and adapt to urban living. Make products easier to identify in busier and smaller store environment

Get ready for the new digital age - connect, engage, trigger purchase, and stay connected

Austere (time and money) shoppers increasingly switching to discounter, online and convenience

Channel evolution in emerging markets will be a lot faster

Your biggest customers might no longer be your fastest growing customers

Conclusion

Operating in a polarised world: Where is the next incremental sales ($ / £) going to come from

Understanding changing consumer profile: Do I know them? Do I understand where, what, when and how they shop?

Embracing real value: Are we delivering real value to shoppers? How do we collaborate with our customers to deliver it?

Fundamental change in route-to-market: What's my strategy around online, discounters and convenience? How to play in an omni-channel environment?

Increased complexity around customer planning: Have I identified my rising stars? How am I going to deal with increased complexity?

Exploring key attributes of the UK tissue products that drive consumers' choice

Pierre Noé, managing partner, CP-Partners, Geneva, Switzerland

Bibiana Rubini, product development research Fibria Celulose

Characteristics of the UK tissue market from a consumer perspective. Findings includes key attributes of tissue products; which were collected on the shelves at one major UK retailer that drive consumer's choice.

The UK market is the second biggest market for tissue consumption in Europe with over one million tonnes consumed in total and 17 kg/year/capita; Tissue production was in the range of 800k tons in 2014; The UK is the largest net importer in Western Europe; Branded products represent 50% in volume, which is above the European average of 35%; Market pulps represent close to 60% of the raw material for tissue paper production.
Sources: RISI and PPPC

Tissue product properties

What matters to the consumer:
'Value for money'
Product key attributes: softness/handfeel; absorption, strength;
Product performance

What matters to the producer:
Deliver what the consumer will buy
Material performance
Equipment runnability and production costs

Key attributes per category
Toilet tissue softness, absorption capacity; Kitchen rolls absorption capacity and rate, dry strength, bulk; Facial tissue softness, brightness; very large offer displayed on the shelves; Hankies strength (4 ply).

Furnish management

Furnish management is an important tool to reach the requested properties.

Historically, the use of BEKP in tissue products has been a breakthrough for a key attribute like softness.

Using higher amount of BEKP is one way to differentiate in a highly competitive and mature markets when 'ultra-softness' is the target.

The use of BEKP in structured products like kitchen rolls is so far limited, but technology may evolve to accommodate a higher amount of BEKP.

Conclusion of the study

A wide range of properties has been measured for toilet, hankies and facial tissue especially.

Consumers in the UK are particularly favoured as to the abundant supply of facial products, some of them with ultra-softness.

Kitchen rolls liquid absorption has been measured on the top of the range – the reason for this being their 'structured' TAD formation.

The brands play their role by offering a wide range of attributes which leaves the consumer with a broad choice of products.

By Industry analyst **Greg Grishchenko**

Waste not - want not... the issue of disposability facing tissue nations

Even among developed 'non-Western' nations to 'flush or not to flush' is still the question.

Tissue - the brightest segment in the world paper business - is growing not only in volume but also in the minds of the global populace. Toilet paper is the dominant product and has for the last four decades been regarded as a key indicator of progress in society.

Countries are judged by the level of toilet tissue consumption which signifies the state and advancement of domestic public sewer systems. However, it is not only availability but also disposability of toilet paper that plays a major part in the perception of cultural expansion.

Public sewer systems in the majority of developed countries are designed to process used short-fibred toilet tissue without clogging. Modern septic tank services also assure bio-chemical dispersion.

"To flush or not to flush?" - this question divides people in Europe, the Americas, Asia and elsewhere. It is customary to find a trash bin next to a toilet bowl in the countries of the former Soviet Union and Balkans.

One example of the international news media's reaction to toilet paper disposal came from the Sochi Olympics in Russia. American sport journalist Greg Wyshynski was affronted enough to post a photo of a restroom in Sochi with a sign that read "Please do not flush toilet paper down the toilet! Put it to the bin provided".

The 'Western' way of toilet tissue disposal is a topic of increasing public interest in 'non-Western' but relatively developed countries. But it is not simply an issue of efficient disposal ... it sets recovered electrical power from incinerating toilet paper against minimal value from efficiently disposed sediment.

The sovereign and capitalist East Asian state of Taiwan is a regional economic power nearly 100 miles from mainland communist China. Like trading neighbour Japan, Taiwan too has a dwindling birth rate which continues to affect sales growth of tissue products, keeping it in low single digit numbers, while other segments of Taiwanese communal life enjoy impressive advance.

'Taiwan's manufacturers of quality toilet tissue brands claim that toilet paper consisting of short fibres will certainly break up in water and is therefore safe to flush.'

Greg Grishchenko

Industry analyst

On a trip to Taiwan in November, I ascended to the top of Taipei's 101 floor skyscraper in the world's fastest elevator. One of the tallest buildings in the world, it boasts a 600 tonne, anti-wind vibration ball openly displayed at the top ... a technological achievement which would make any city in the US jealous.

Imports from mainland China

By Industry analyst **Greg Grishchenko**

Taiwan's "Modern Toilet Restaurant" is a well-known toilet-themed tourist attraction

The Taiwanese tissue industry continued to show moderate growth in 2014, especially in the toilet tissue segment with Kimberly-Clark Taiwan and Cheng Loong Corporation leading the market.

Imports from China and Japan create competitive pressure in burgeoning consumer markets and drive up consumption from current five kg per year to European levels in some urban areas.

Taiwan stands out in the region of South East Asia, having first-rate public hygiene in most areas. Similar to Japan, this is a nation that makes its toilets and high rate of flush toilet usage important factors of the country's "happiness index."

The public obsession with the toilet can even be said to go to extremes; the "Modern Toilet Restaurant" is a well-known toilet-themed tourist attraction that has branches across the island. According to one of its owners the idea for the restaurant cropped up after reading the manga Dr. Slump on the toilet –Japanese comics string set around bathroom humour.

Perhaps surprising then that there should be any issue about disposability there of all places. The English-language daily, the China Post, recently laid out the continued debate about toilet paper disposal between Taiwan's governmental Environment Protection Agency (EPA) and local legislators, siding with tissue manufacturers.

Taiwan's manufacturers of quality toilet tissue brands Sujay (Kimberly-Clark Taiwan) and Andante (Cheng Loong Corporation) claim that toilet paper (but not facial tissue and kitchen towels) consisting of short fibres will certainly break up in water and is therefore safe to flush.

However, the EPA insists that the disintegration rate of toilet paper is low in the local sewer lines, causing blockages and multiplying costs associated with cleaning and repair. It also defends the advantage of getting recovered electrical power from incinerating toilet paper rather than minimal value from disposed sediment.

The "flushing toilet paper disposal" approach was first presented by Taipei politicians in 2007 during a high-profile conference.

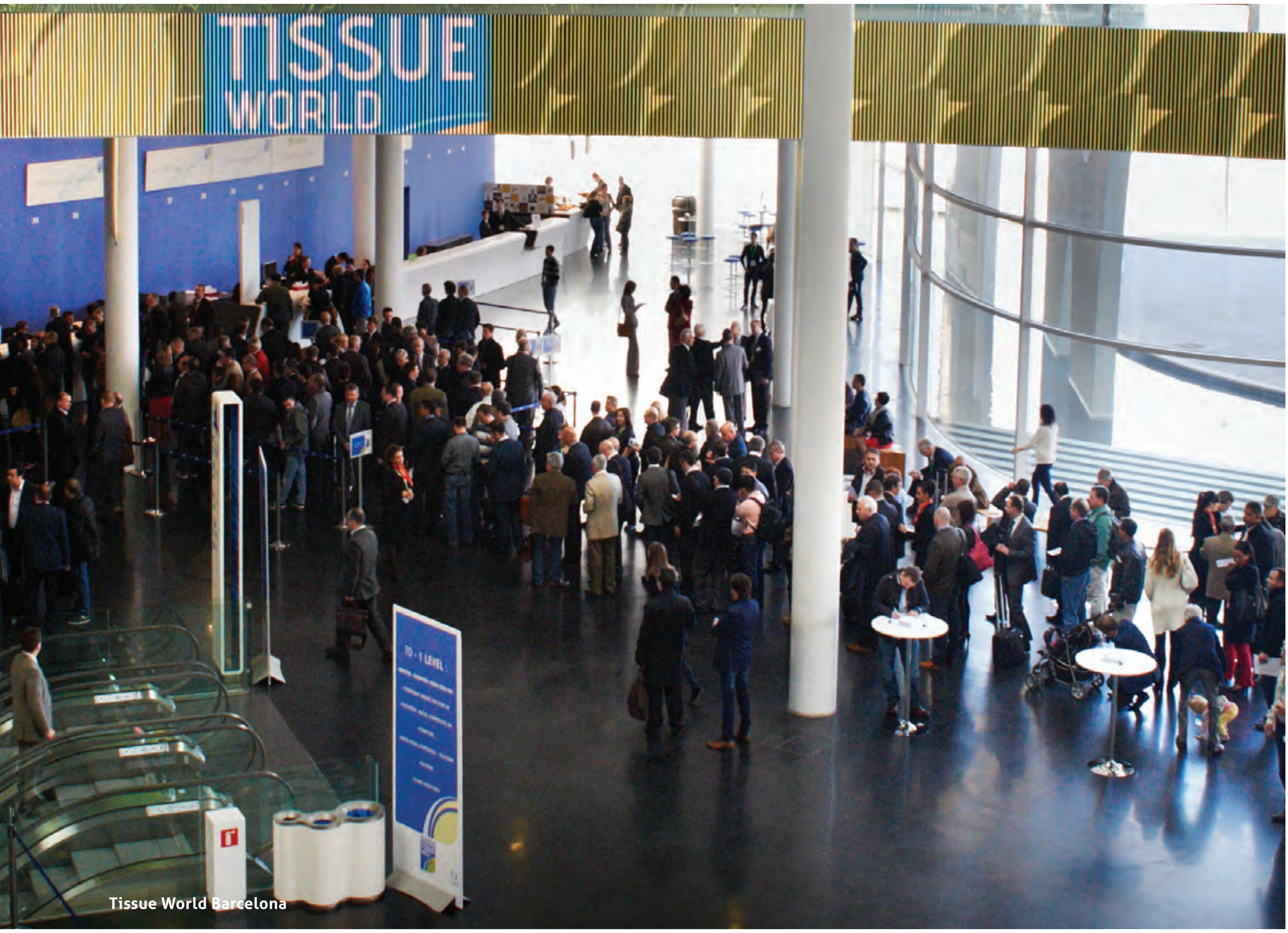
The capital city's Environmental Protection Department, however, was reluctant to promote toilet tissue flushing, claiming that some members of the public would throw non-tissue items like newspapers and sanitary pads into toilets and cause sewer line blockage.

On the contrary, defenders of flushing suggest the government agency should also consider saving energy while collecting toilet paper waste and hold back purchase of otherwise avoidable toilet paper bins and waste bags.

The debate is on-going, even as Taiwan's positive economic prospects will likely increase tissue use and lend weight to both sides of the argument.

Tissue products in Taiwan

Event	Date	Location	Website
SINCE/ANEX 2015	May 13 - 15, 2015	Shanghai, China	www.anex2015.com/
Tissue World São Paulo	May 20 - 22, 2015	São Paulo, Brazil	www.tissueworld.com/SaoPaulo
CIDPEX 2015	May 25 - 27, 2015	Chengdu, China	www.cnhpia.org/en/conference.htm
Miac	October 14 - 16, 2015	Lucca, Italy	www.miac.info
Tissue World Jakarta	October 28 - 29, 2015	Jakarta, Indonesia	www.tissueworld.com
Tissue World New Orleans	March 14 - 17, 2016	New Orleans, USA	www.tissueworld.com/NewOrleans
ISSA/INTERCLEAN Amsterdam	May 10 - 13, 2016	Amsterdam, Netherlands	www.issainterclean.com/
Asian Paper 2016 Bangkok	May 25 - 27, 2016	Bangkok, Thailand	www.asianpapershow.com/
Tissue World Istanbul	September 27 - 29, 2016	Istanbul, Turkey	www.tissueworld.com/Istanbul
Tissue World Milan	March 28 - 30, 2017	Milan, Italy	www.tissueworld.com



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First Name* Last Name*

Job Title*

Company*

Address*

Postal Code*

Address 2

City* State* Country*

Telephone* Fax*

Email*

Company Website*

What is your company's primary field of business (tick all that apply):

A. INTEGRATED TISSUE PRODUCTS MAKER

Primary business making paper and producing:

☐ Consumer (At Home) Finished products
☐ Away-from-Home (AFH) Finished products
☐ Other Tissue Grades, please specify: ....

B. JUMBO ROLL SUPPLIER

☐ Jumbo Roll Maker, for sale to converters

C. TISSUE CONVERTER

Primary business is converting jumbos and producing:

☐ Consumer Finished products
☐ Away from Home (AFH) Finished products
☐ Other Tissue Grades, please specify: ....

D. RETAILING AND DISTRIBUTION

☐ Retailer
☐ Broker
☐ Distributor

E. SUPPLIER TO THE TISSUE INDUSTRY Please check all that apply:

☐ Paper making machinery
☐ Fabrics, felts, clothing
☐ Drying technologies
☐ Process automation and control
☐ Water treatment, environmental and effluent control
☐ Dust control and air treatment systems
☐ Doctors and creping blades

☐ Deinking
☐ Stock preparation, fiber processing and pulping equipment
☐ Fibers: Market pulp and recycled fiber
☐ Chemicals and chemical technologies

☐ Converting machinery and supplies
☐ Printing machinery and supplies
☐ Inks, glues and dyes
☐ Embossing rolls

☐ Knives and blades
☐ Folders/interfolders
☐ Cores and coreboard
☐ Wrapping/Packaging equipment and supplies
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☐ Testing machines
☐ Engineering
☐ Consulting services. Please specify field: ....
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