The independent news provider for the global tissue business

# TISSUE WORLD

APR / MAY 2013

## INDONESIA
Getting a grip of its tissue potential

## PLUS
Get the latest from Sappi, Södra and Pöyry in TW's fibre technical theme

*MICA (P) 138/05/2012*

UBM

TISSUE WORLD

Apr / May 2013

*A traditional ceremony is celebrated with local offerings in Bali, Indonesia*

# In this issue

By HELEN MORRIS
Tissue World, Editor

# A UNIQUE MARKET AIMING TO CREATE A NEW CATEGORY OF ICI NATIONS … INDIA-CHINA-INDONESIA

Indonesia is a fascinating market offering huge potential for the tissue industry. Almost 251 million people and counting, geographically located as the gateway between Asia and Australasia and consisting of the largest archipelago nation in the world with some 17,000 islands – they think.

The economy continues to speed along, growing 6.2% last year and during the global recession it outperformed its regional neighbours joining China and India as the only G20 members posting growth in 2009.

As for tissue, Indonesia is now challenging South Korea in terms of volume growth. This is no mean feat, as last year's country report published in August/September shows. No wonder one industry figure told me he sees the nation potentially forming another category to match the much vaunted BRIC economies … this one would be ICI, standing for India-China-Indonesia.

When I visited Indonesia at the end of March, this economic activity was evident everywhere. Traffic in the cities is in constant flow as a growing middle class experiences rapid economic growth, more job prospects as well as an increasingly westernised consumption culture. And that's the key to that potential being realised for tissue.

Another top industry figure told me: "Things are changing, we are seeing more westernised habits for tissue use, but it does take time." The Indonesian market was unique, he said. "Many people in local shops or homes will place a toilet roll on the table and use it as kitchen roll or facial roll… It's very much a cultural thing."

While nowhere in the world is the Blackberry more popular, the use of tissue in everyday life still has a lot of room for development. Tissue consumption lags behind similar sized economies largely because of a narrow acceptance of such products. Facial towels and toilet paper are the main selling products but the country's cultural habits and access to spending power is still dictating the pace of toilet paper use.

For all its speedy economic growth, Indonesia is a developing nation that at the moment is largely held back by poverty and a complex regulatory environment. There has been a decade of painful restructuring, and only in the past few years have companies started to invest again. New tissue capacity is coming from a combination of smaller mills with modest machines to very large complexes with several mid to large-sized machines. APP and Sopanusa, which I visited for this issue, are a case in point. Sopanusa is a small company with eyes set on further global expansion in the export market with substantial plans to create a new company and invest in three new tissue machines that will eventually double its capacity.

The global paper giant is APP, a company well known for its aggressive expansion strategy as well as its troubled history with allegations of natural forest deforestation. But has there been a turning point? On 5 February it committed to "an immediate halt" in the clearing of natural forest across its entire supply chain in Indonesia with immediate effect.

This bold statement has been widely embraced, not only by the global pulp and paper industries but also by the media and the NGO's that had targeted the company's alleged illegal logging. APP has said its progress will now be independently verified by The Forest Trust.

Regardless, it has now positioned itself as a pioneer of sustainability and will need to be fully transparent. With the world's eyes on the business, there is no going back.

However, further down TW's APP story is a more telling long-term move. In Indonesia, APP's strategic focus towards tissue becomes ever clearer as it looks to flex its muscle among the corporate giants of global growth.

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

# Indonesia has the perfect combination of inputs driving growth in tissue manufacture, from a lifted GDP to an expanding middle class. Here, Phillip Lawrence explains why the country is one to watch.

Some people have called Indonesia the least known nation in the world. Others have said it is an unlikely nation. For many years Indonesia did not play a significant role in the global economy. That has now changed dramatically in many ways.

The President of Indonesia Susilo Bambang Yudhoyono (SBY) today struts the world stage and is courted by governments and international leaders. He recently completed successful visits to North America, Europe and the UK. The Indonesian economy is shifting from a purely extractive industry base to producing products that are beginning to be produced quite well. The government focus on education and skills development is resulting in upstream, value-added industries and businesses that can bring much greater foreign income earning to the nation. At the same time lifting the GDP and driving internal consumption is helping create an expanding middle class.

Nowhere is the impact of these changes more evident than in the tissue sector. Indonesia has the perfect combination of inputs driving growth in the tissue manufacturing industry. The country is blessed with the perfect climate for rapid growth forests and the yield per hectare of eucalypt and acacia trees is massively greater than in the cold climate slow

*By* **Phillip Lawrence**,
*Consultant and speaker*

growth conditions. It is literally possible to watch a small tree growing because the rate of growth is so fast. There is high rainfall and long hours of year-round vertical sunshine. Now after a number of years of industry expansion the supply of wood should soon be total from rapid growth plantation sources.

Indonesia has a ready workforce relatively evenly spread out across the entire nation. The government has been focusing a great deal of effort over recent years on education and skills development. This has been the number one national weakness in the past. When Indonesia gained independence from the Dutch in 1948 there was not one university in the country, now there are many. Addressing the community knowledge base is essential in taking Indonesia out of developing nation status in future years.

**'The tissue manufacturing area of paper making is a perfect fit for Indonesia and the entire Asian region. As a result it is likely the area of business is going to experience long term stable growth for many years to come.'**

The sustained economic growth on the back of the resource sector has resulted in an increased number of middle class consumers. The country is a significant supplier to China's coal needs, and is also an oil exporter nation. Both of these areas are bringing important tax earnings to the government which is now one of the few almost debt free countries in the world. As a result of the Asia Financial Crisis about a decade ago the internal financial structure of the country changed so that national wealth is spread out to local and remote communities. Were Indonesia was once considered the most centralised, government controlled nation on earth, today it is the most decentralised nation. This means regional areas are benefiting from the natural resource business.

The final key point is that Indonesia is placed fortuitously in the most geopolitically advantageous place on the globe that you could imagine. Some economists have called Indonesia the "Gateway." It spreads from the bottom of India to the top of northern Australia. Almost 80% of shipping that goes from the western world to Asia must pass through the Indonesian archipelago.

Indonesia is a country rich in natural resources, with an educated population and a stable democracy in the middle of the world's busiest trade route.

The paper industry in Indonesia has been through a remarkable twenty years of development and change. Effectively the paper industry was born out of the realisation that Indonesia could be earning a great deal more foreign income if its economy were based on value added or upstream industries. The tissue manufacturing area of paper making is a perfect fit for Indonesia and the entire Asian region. As a result it is likely the area of business is going to experience long term stable growth for many years to come.

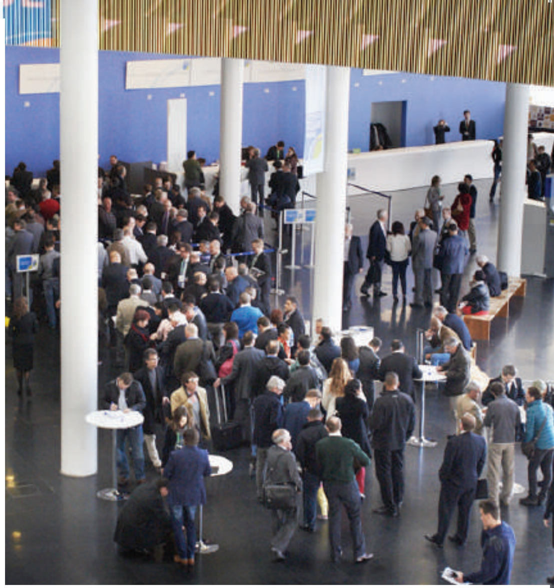
Tissue consumption in Indonesia is well above the international average growth rate which currently is around 4%. Indonesia is probably just over 7%, but accurate internal figures on the market are difficult to find. The export market is, however, Indonesia's greatest opportunity, given the access to shipping lines and nearby mature and high growth markets. Also because of the low cost base Indonesian products are likely to find increasing sales opportunities in more remote regions such as North America and Europe. The quality of their product will certainly more than satisfy the needs of the consumers in those markets.

Environmental issues have plagued the Indonesian manufacturers for many years, in particular the largest Indonesia producer Asia Pulp and Paper (APP). After years of battles with local and international NGOs, the company has recently announced a road map for sustainability which includes no longer relying on natural forests for wood fibre. This is a significant change and one which has been warmly, if cautiously, welcomed by green groups around the world.

Significantly, the manner of the announcement, by APP chairman Teguh Wijaya, was in itself a rarity in Asian business where the head of a company would not normally take the responsibility for such a significant statement. The usual process would see an announcement by middle management. That marks an interesting change in the way a large Indonesian business operates, and perhaps a new era of sustainability for the industry in Indonesia? It is a common sight in the western world to see business leaders take centre stage for important announcements, some embrace the role with such passion they are elevated to rock star status. It was a significant event in the Indonesia context and so it is worth watching to see how the company adheres to the commitment over time.

Likely the one missing link for Indonesian manufacturers of tissue product will be the inability to gain FSC certification. The limitation set by FSC that only forestry settled prior to 1994 can be certified does not bode well for the new generation of rapid growth and high yield plantations in Indonesia. Unless there is a sudden change with the guidelines used by the FSC then there is no hope that Indonesian firms can secure the FSC label. However, the national certification body in Indonesia has now joined the PEFC international group and likely within the next year or two most plantation forestry in the nation will fall under the equally robust PEFC certification. This will bring the Indonesian tissue manufacturers in line with their international competitors.

*Phillip Lawrence is doing PhD research on the Asian forestry, pulp and paper sector at Sydney University, Australia. He is a consultant and speaker for several companies in the sector.*

# 40% increase in visitors at Tissue World 2013

Some 2,815 visitors attended Tissue World 2013 in Barcelona in what was the shows most successful event yet.

The figure comprises of exhibitors, delegates, speakers and visitors and is an increase of 40% on figures from Tissue World Nice 2011.

There were 190 exhibitors in total, 54 of which were new businesses.

People from some 92 countries attended.

Some 331 people attended the conference, the key themes at which included sustainability, recycled fibre, production and energy efficiencies, and on the show floor there were more companies showcasing live machinery than ever before.

There was great participation from across the world's supply chain, from pulp supply to retailers.

Morris Housen, chief executive and president at USA-based Erving Paper Mills, told TW: "Tissue World 2013 in Barcelona was a hit. The action at the exhibits was energetic and the presentations were compelling and topical."

***"What excited me most was the bullishness of the exhibitors and the attendees." Morris Housen, Erving Paper Mills chief executive and president***

He added that he was impressed with the well roundedness of the exhibitors.

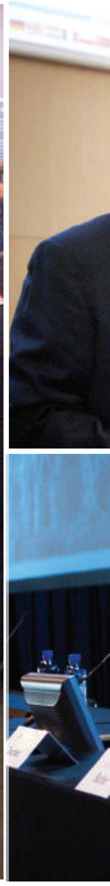
"I met with suppliers that affected every aspect of my operation. The paper machine builders were clearly the stars of the show with record numbers of installations and shifting technology.

"In terms of themes, what excited me most was the bullishness of the exhibitors and the attendees. I've been to a lot of trade shows, none are ever this active from the opening day until the closing bell.

"And Barcelona was a perfect backdrop to frame the excitement of our industry and its bright future."

***Jordi Gomà-Camps Travé, production manager at Spanish tissue producer Gomà-Camps, told TW: "We took the most profit out of the possibility of having several suppliers in the same place and having the opportunity to discuss with them and compare among them in order to plan our next steps towards sustainability and competitiveness.***

***"The show ran very well and it was definitely better than in Nice. It is always interesting to change and refresh ideas."***

# TISSUE WORLD 2013's CONFERENCE PROGRAMME INCLUDED TALKS FROM A
# TISSUE AND ASSOCIATED INDUSTRY. SOFIDEL, SCA, WWF AND LIDL LAUNCH

## LUIGI LAZZARESCHI, SOFIDEL GROUP CHIEF EXECUTIVE

***Paths Towards Sustainability***

In his talk, Lazzareschi said the Sofidel Group commits to "lowering costs, availing of tax benefits, developing market entry barriers and satisfying customers' and consumers' needs, as well as anticipating stricter standards and increasing transparency".

He addressed how the company has committed to minimising its production impact on the environment; it has successfully reduced its CO2 emissions by 11% in 2012, and has committed to reduce its emissions by 26% in 2020 compared to 2007.

He also highlighted how the company is optimising the use of water resources.

## MATS BERENCREUTZ, SCA EXECUTIVE VICE PRESIDENT

***Business Success and Sustainability in Harmony***

Berencreutz discussed the opportunities for the tissue industry; ageing populations and growing middle classes, and also the challenges; scarce resources, climate change and deforestation and access to water.

He highlighted that the business will achieve its objectives by focusing on sustainability, efficiency, innovation and growth.

The company has, he said, a business approach to sustainability. It can improve its competitive edge, reduce costs, reduce risk level and attract investors.

***'Sustainability is important. 65% of respondents say that sustainability is very important or important in customer relations.'***

***Mats Berencreutz, SCA executive vice president***

"Sustainability is important," he said. "65% of respondents say that sustainability is very important or important in customer relations, and that sustainability impacts contracts, with 41% of respondents saying it has affected the results in contact negotiations."

## ESKO UUTELA, PRINCIPAL – TISSUE, RISI, GERMANY

***The World Supply/Demand Outlook for Tissue Products***

An exploding rate of new tissue investments in emerging markets will create too much capacity coming on stream in 2012-2014, according to a talk by RISI's tissue principal Esko Uutela.

Growth in the tissue market is clearly focusing on substantial expansion in emerging markets. Some 44% of growth is in China and there is significant growth in Latin America outstripping that in North America or Western Europe.

The average global long-term tissue growth rate is +3.9% per annum; 2009's recession caused a small break but the next few years are expected to show good global demand growth

## A RANGE OF HIGH PROFILE SPEAKERS FROM ACROSS ALL AREAS OF THE HED THE PROGRAMME. BELOW, TW SUMMARISES A FEW OF THE KEY TALKS.

with a total global growth of 16.6 million tonnes expected.

Uutela said: "There is a real investment peak, but closing capacity and project delays are likely to change the 2013-2014 view from now.

"While major capacity closures could improve the outlook, it will only be marginally."

In Europe, the tissue business is in a quiet phase with disappointing growth but parts of Eastern Europe, Russia in particular, offer expansion opportunities.

***"Growth in the tissue market is clearly focusing on substantial expansion in emerging markets."***

***Esko Uutela, principal – tissue, RISI***

Eastern European markets are showing varying trends but sustaining growth, with growth moving to lower-income countries within the region.

The growth rate of Latin American tissue consumption between 2004-2021 is averaging 5.2% after a slow recovery from the recession, with Brazil clearly heading market expansion.

In the MENA region, Turkey is expanding most followed by Saudi Arabia and Iran.

In the Asian Far East, Indonesia is challenging South Korea in terms of volume growth, while India is coming and Vietnam developing but only gradually.

In China, the outlook for consumption growth is promising.

Uutela said: "The market is currently experiencing fast and dynamic growth with expansion to additional provinces, and there is still a lot of untapped potential.

"However, it is expanding very rapidly and currently it looks like too much capacity is coming on stream in 2013-2014, despite several projects have already been delayed and more delays will likely follow."

In China, consumption is now 7.5 times higher than 20 years ago and the average 20-year growth rate 10.6% per annum.

Average growth is 8.3% and the driving forces for Chinese tissue demand include economic growth, overall welfare and improving purchasing power.

In North American, no return to high growth rates is expected where the average growth rates is 1.4%.

Population growth contributed to two-thirds of market growth, while at-home retailer labels showed a strong growth of 0.5 million tonnes in 2010-2014, while AfH branded volume is in slight decline.

New investments are needed in the NA consumer tissue sector as buyers target the highest quality category.

Uutela said: "The North American tissue industry is in an interesting phase, moving toward technologies that decreasingly resemble that of traditional papermaking (e.g. ATD).

"We are curious to see what the next moves by the main players will be - will there be something totally new?"

All in all, the focus of the global tissue expansion is clearly on China and there are a lot of challenges ahead for both the

## BILL MOORE, PRESIDENT, MOORE & ASSOCIATES, USA

***The World's Recovered Paper Supply for Tissue Manufacturing***

Bill Moore, president of Moore & Associates Atlanta, discussed the number of changes occurring in the available supply of recovered paper.

His World's Recovered Paper Supply for Tissue Manufacturing talk included; the range of supply and demand of recovered office papers; the primary recovered paper grades used in tissue production; and the major issue of the declining use of printing and writing papers by the world's developed economies producing constraints on the supply of recovered chemical fibres for deinking.

***"The demand for deinked pulp in the US is expected to be reasonably strong due to the real, sustained interest in recycled content."***

***Bill Moore, president, Moore & Associates***

He also discussed contaminant issues in the recovered paper grades used for tissue production, as well as the outlook on future pricing of the two primary tissue/toweling grades, Sorted Office Papers (SOP) and Coated Book Stock (CBS).

Recycled fibre growth as a percentage of furnish for the industry has peaked while bleached pulps from downturn in printing/writing papers were widely available and with still more pulp capacity additions.

However, there was less DHG needed going forward, but pricing will remain strong.

He highlighted trends in the use of recovered paper in the tissue sector and said that there was less use of CBS as well as more coated material in SOP, process changes to reduce the need for this low yield grade, recycled fibre projects for printing/writing papers do not use CBS.

Tissue, the largest market for office papers, remains one of the stronger growing paper grade sectors in all regions of the world, recycled fibre-based tissue is more prevalent in certain markets – North America, Europe, Middle East, and developed Asian countries (Japan, Korea etc).

China's tissue business is largely growing with virgin fibre as compared to its newsprint and paperboard sector which relay heavily on recycled fibres.

The demand for deinked pulp in the US is expected to be reasonably strong due to the real, sustained interest in recycled content of a variety of products such as copy papers, cups, packaging and magazines.

## FLORIAN SCHÜTZE, CORPORATE SOCIAL RESPONSIBILITY DIRECTOR, LIDL, GERMANY

***A Major Retailer's Viewpoint on Tissue and Sustainability***

Florian Schütze focused on how the demand for more sustainable products and processes is becoming clearer every day.

"At Lidl we recognise the importance of sustainability and we are continually striving to improve social and ecological conditions.

"Our recipe for success: highest quality at a good price."

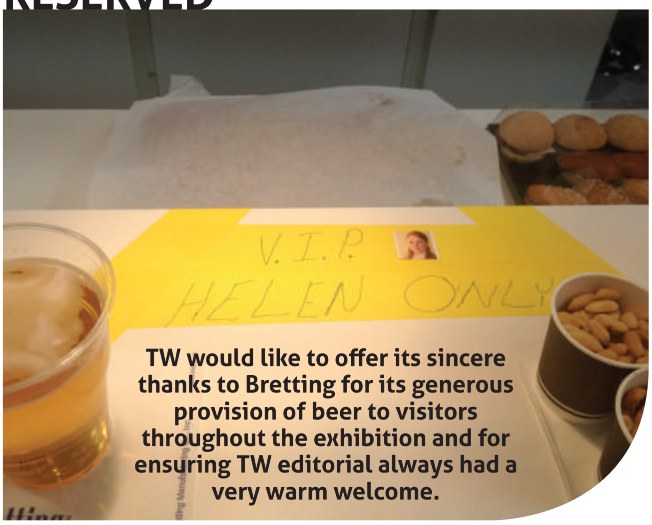
Schütze said the business is focused on working together with recognised labeling schemes such as Fairtrade, UTZ CERTIFIED, Rainforest Alliance, Marine Stewardship Council, the German Blauer Engel, the EU ECO Flower and the FSC to expand its product range in our its brands such as FAIRGLOBE and BIOTREND.

"This applies to both "Food" and "Non-Food" products, and we are already well advanced in areas like Fairtrade products, fish sourcing, eggs and palm oil when looking to the German market."

Schütze said that with growing awareness by consumers of sustainability and the environment, this trend can only be expected to continue.

Lidl's sustainability practices were discussed, with a focus on forest products and tissue paper products that are part of its product range.

## RESERVED




**TW would like to offer its sincere thanks to Bretting for its generous provision of beer to visitors throughout the exhibition and for ensuring TW editorial always had a very warm welcome.**

Exhibitors collect their awards at Tissue World 2013 from Christopher Eve, senior vice president at UBM Asia

# EXHIBITORS AND VISITORS C
# AWARDS" AT TISSUE WORLD

Tissue World 2013 has hosted the Runnability Awards to publically thank the exhibitors that have supported the show over the years.

***'Tissue World wanted to thank all the companies that have been part of the event through the years.'***

This year Tissue World is celebrating its 20th anniversary and to mark this special occasion it has created the Gold, Silver and Bronze Runnability awards.

Taking runnability to new heights, Tissue World wants to thank the eight Gold Medal companies that have had been exhibiting at Tissue World since the very beginning in Nice in 1993 right up until Barcelona 2013. That's 20 years of runnability and a world record.

They also wish to thank the Silver Medal companies who have been exhibiting for an impressive 18 years and the Bronze Medal holders, at 16 years.

In addition, they wanted to thank all the companies that have been part of the event through the years.

*For those that were unavailable to collect their award, please contact Agnes Gehot, conference and operations manager at UBM Asia, at: agnes.gehot@ubm.com*

# ELEBRATE THE “RUNNABILITY
# 2013 IN BARCELONA!

| | GOLD (11 SHOWS) | SILVER (10 SHOWS) | BRONZE (9 SHOWS) |
|---|---|---|---|
| 1 | ASHLAND | A. CELLI PAPER SPA | C.G. BRETTING MANUFACTURING CO. INC. |
| 2 | BRUNNSCHWEILER SA | ANDRITZ | FIS IMPIANTI |
| 3 | CHRISTIAN SENNING VERPACKUNGSMASCHINEN GMBH | BTG | HENKEL AG & CO KGAA |
| 4 | IKS KLINGELNBERG GMBH | BUCKMAN | NOVIMPIANTI DRYING TECHNOLOGY SRL |
| 5 | INDUSTRIA CARTARIA PIERETTI SPA | CONVERMAT CORPORATION | SAUERESSIG GMBH & CO. |
| 6 | METSO PAPER SWEDEN | DCM USIMECA | TAU MACHINES SRL |
| 7 | OMET SRL | FABIO PERINI SPA | TOSCOTEC |
| 8 | PMT ITALIA SPA | KADANT | UNGRICHT ROLLER & ENGRAVING TECHNOLOGY |
| 9 | | OCME | |
| 10 | | PETROFER CHEMIE H.R. FISCHER GMBH | |
| 11 | | RECARD SPA | |
| 12 | | SORGATO SRL | |
| 13 | | TREBOR INC. | |
| 14 | | VOITH PAPER HOLDING GMBH & CO. | |

Turkey

## HAYAT KIMYA EXPANDS IN RUSSIA, TURKEY AND IRAN

Hayat Kimya has announced at Tissue World 2013 that it has signed for a repeat order for two complete tissue lines from Metso for an undisclosed sum.

Each production line will include an Advantage DCT 200 TS tissue machine which will be installed at the tissue producer's new mill sites near the city of Alabuga, Tatarstam, in Russia, and in the city of Mersin in southern Turkey. Both tissue machines have a width of 5.6m and a design speed of 2,200m/min.

The new lines will have a design capacity of 70,000 tonnes a year of high-quality facial, toilet and towel grades.

The start-up of the Russian tissue machine will be installed in the second half of 2014 and the second machine will be started up in Turkey at the end of 2015.

Lutfi Aydin, director paper group at Hayat, told Tissue World that the contract had been signed for at the beginning of March but had been announced at Tissue World 2013.

The scope of delivery will compromise two complete tissue production lines featuring stock preparation systems and an Advantage DCT 200 TS tissue machine.

Hayat Kimya is part of the Hayat Group. Its tissue facilities have a paper production capacity of 140,000 and a converting capacity of 100,000.

Elsewhere, the company has announced its aim to start tissue production in Iran in late April.

It has started to commission the 65,000tpy tissue machine at its new mill in Zencan, Iran.

The company plans to start up the machine in the last week of April.

Hayat Kimya first announced its intention to build a new tissue plant in Iran in July 2009 with the aim of commissioning it in the middle of 2011.

Since then, the project has run into some delays and the start-up has been postponed several times, which the company has said is due to bureaucracy, among other things.

The previous timing set for commissioning was November last year, but this was postponed because of delays in customs due to bureaucratic problems, paper group director Lütfi Aydin explained.

Hayat Kimya operates one mill in Izmit, northwestern Turkey, where it houses two machines with a combined capacity of some 135,000tpy of tissue. The company also plans to install a 60,000tpy tissue PM in Yelabuga in Russia.

*News from RISI (www.risiinfo.com)*

Brazil

## BRAZIL'S CARTA FABRIL BEGINS MEGA TISSUE MILL CONSTRUCTION IN ARACRUZ; PLANS TO PRODUCE 1 MILLION TPY BY 2024

Brazilian tissue producer Carta Fabril has plans to become the largest tissue producer in the country and compete with global players in this market.

The company, which currently produces only 50,000tpy has already signed a letter of intent with Metso for the supply of two paper machines, and has conducted project studies with Pöyry.

Carta Fabril's financial VP, Marcos Cattan, told RISI: "The first phase involves a Real 400 million ($ 203 million) investment with two PMs of 60,000 tpy each but our goal is to invest a total of $1 billion by 2024, enabling the company to have a 1 million tpy tissue capacity."

The first two PMs should kick off by 2015 at the company's Aracruz mill, in Espírito Santo state.

Carta Fabril expects to have 16 tissue PMs operating at Aracruz by 2025. The company started the Aracruz plant construction works in December 2012.

The big new mill in Espírito Santo state will be right beside Fibria's largest bleached eucalyptus kraft (BEK) pulp lines in Brazil and close to Portocel port.

***"Our plan is to become a global tissue reel supplier and our proximity to pulp producers and a pulp/paper specialised port reduces costs as well as allows us to have incredible competitiveness."***

"Carta Fabril's plan is to become a global tissue reel supplier and our proximity to pulp producers and a pulp/paper specialised port reduces costs as well as allows us to have incredible competitiveness," Cattan said.

The company is currently moving on with earthworks at the new plant and waiting for the funding approvals. Carta Fabril had a preliminary conversation with the Brazilian Development Bank (BNDES) in December and has a local bank initiating prospects with a Swedish export funding agency, supported by Metso.

Carta Fabril currently has two tissue paper mills in Brazil - one in São Gonçalo city, Rio de Janeiro state, and another one in Anápolis city, Goiás state.

It is going to start up a PM5 at Anápolis in November of this year, raising the company's total capacity to 75,000tpy. This investment is estimated at Real 40 million and the equipment is being supplied by Hergen.

*News from RISI (www.risiinfo.com)*

## CMPC MELHORAMENTOS TO ADD NEW TISSUE CONVERTING LINE IN NORTHEAST BRAZIL

Tissue producer CMPC Melhoramentos, part of Chilean group Empresas CMPC, confirmed that it plans to add a new converting line in Jaboatão do Guararapes city, Pernambuco state, northeast Brazil.

The company aims to expand its presence in the region, which has the highest potential for tissue consumption in the country.

CMPC Melhoramentos will also launch a distribution centre in the same city.

The company said that both projects "will guarantee greater operational efficiency and proximity with that market".

***"Our products will be even more affordable and available for consumers in the north eastern region of Brazil."***

Local news said that the total investment will reach Real 59 million ($29.7 million) and the company has received support from the Pernambuco's state Development Program.

CMPC Melhoramentos didn't confirm the amount, but stated that it is investing to expand its production of toilet paper, paper towels, napkins, diapers and sanitary napkins.

"These products will be even more affordable and available for consumers in the northeastern region of Brazil."

*News from RISI (www.risiinfo.com)*

China

## C&S PAPER STARTS UP TWO 28,000TPY TISSUE PMS IN JIANGMEN; FOUR MORE DUE TO START THIS YEAR

China's C&S Paper has brought two new 28,000tpy tissue PMs online at its mill in Jiangmen city, Guangdong province.

The identical units started up in February. Supplied by Toscotec, each of the PMs has a wire width of 3.6m and a design speed of 1,600m/min.

The construction of four more PMs is well underway, and they are planned to be fired up this year.

This will boost the firm's total tissue capacity to around 520,000tpy.

Two machines with a combined capacity of around 59,000tpy will kick off production in the second half of 2013 at the firm's site in Chengdu city, Sichuan province.

One will have a trim width of 3.55m, and a design speed of 1,650m/min.

It will produce tissue at a rate of 32,000tpy.

The other one will have a trim width of 2.85m and a design speed of 1,700m/min. Its capacity will be around 27,000tpy.

And in Guangdong province, C&S is building a greenfield mill in Luodong city.

Two Andritz tissue PMs are scheduled to come on stream there by the end of this year.

Each PM, with a capacity of 60,000tpy, will have a trim width of 5.56m and a design speed of 1,900m/min.

*News from RISI (www.risiinfo.com)*

## SUN PAPER PLANS TWO 60,000TPY TISSUE PMS IN CHINA

China's Sun Paper plans to expand into the tissue sector by building two 60,000tpy PMs producing the grade at its site in Yanzhou city, Shandong province.

The firm has signed a letter of intent with an investor to set up a subsidiary to run the tissue project.

The two parties will invest RMB 30 million ($4.77 million) to establish the subsidiary, with Sun Paper and the investor holding an 80% and 20% stake respectively.

The partner, Yanzhou Xudong Investment, is also a Sun Paper shareholder, with 16,851,238 shares in the firm.

According to Sun Paper, virgin fibre will be used to feed the two tissue PMs.

The firm will erect a single 60,000tpy PM first, which will need a total investment of RMB 450 million.

The second tissue PM will be built after the first one comes online.

A timeline for the project has not been hammered out, and the establishment of the new subsidiary still needs governmental approval.

Tissue fever: Investment in the tissue sector in China has surged, with many pulp and paper markers expanding or planning to expand into it.

The frenzy is partly attributed to the weak demand for paper and board; many conventional paper and board firms have witnessed sharply decreasing profits.

Sun Paper, for instance, made a preannouncement of its annual performance for 2012 last week.

Its net profit in 2012 is estimated to have shrunk by 65.88% year-on-year to RMB 170 million.

In addition to Sun Paper's new tissue PMs, Nine Dragons Paper (Holdings) and Lee & Man Paper Manufacturing also have similar plans.

Nine Dragons is mulling over building four 50,000tpy tissue PMs, while Lee & Man submitted plans to erect three PMs with a combined tissue capacity of 200,000tpy for an environmental impact assessment.

Shandong Chenming Paper Holdings recently started up its first tissue PM, with a capacity of 60,00tpy, at its mill in Shouguang city, Shandong province.

And it is building another 60,000tpy unit at its subsidiary in Wuhan city, Hubei province, which is planned to start up this year.

In addition to the new players, traditional tissue makers are also quickly increasing their capacities to secure their place in the market.

Hengan International ordered eight new 60,000tpy tissue PMs last year, and its total capacity will reach almost 1.4 million tpy when the eight PMs fire up.

C&S Paper is also planning a new mill, and two 60,000tpy tissue PMs are scheduled to start up there by the end of this year.

Vinda International Holdings also looks set to install more tissue PMs, to boost its total tissue capacity to 1 million tpy by 2015.

*News from RISI (www.risiinfo.com)*

Morocco

## JEESR INDUSTRIES IN MOROCCO STARTS UP METSO-SUPPLIED TISSUE LINE

Jeesr Industries has successfully started up a state-of-the-art Metso supplied Advantage DCT 100+ tissue line in Morocco.

Metso's delivery included a complete production line with stock preparation equipment, an Advantage DCT 100+ tissue machine and a rewinder and wrapping equipment.

The production line is optimised to produce top-quality tissue paper at low energy and water consumption levels.

It came on stream smoothly and has since been producing high quality paper at the Berrechid site.

The delivery also comprised an extensive automation package including Metso DNA machine, process and integrated drive controls, and a Metso IQ quality control system with Metso IQ Fibre Weight Measurement.

The new production line is designed to produce around 30,000 tonnes a year of high-quality facial, toilet and towel grades mainly for the Moroccan market.

Jeesr Industries is a privately owned company that is part of the Novatis Group, a producer and supplier of various consumer goods including baby diapers for the Moroccan market.

Souheil Badaa, chief marketing officer, Novatis Group, said: "This investment is very important to us and we are of course pleased to see that the machine is operating according to our targets and that Metso have fulfilled our expectations."


**Successful start-up: Production line optimised to produce top-quality tissue paper at low energy and water consumption levels.**

USA

## WAUSAU IN "STRATEGIC REPOSITIONING" ON TISSUE

**The company's Harrodsburg, KY, site, where it has invested $220m in a new tissue machine**

Wausau Paper has said it will strategically reposition the company to focus on the tissue business.

In its 2012 results, tissue case volume grew 3.3% with 4% growth recorded in the fourth quarter.

It invested $220m in a new tissue machine in Harrodsburg, KY, which started production in December.

It now intends to focus its efforts and future capital investment on the continued growth of the tissue business, which it intends to accelerate through organic investment and adjacency expansion.

It said the initial investment in tissue has established the company's "green leadership" in Away from Home tissue markets through "improved product performance and the introduction of new-to-the-market premium recycled products."

President and chief executive Henry Newell said: "Over the past 18 months we have focused on generating cash to fund our $220m tissue expansion, constructing a new tissue machine and upgrading our converting infrastructure while maintaining a conservative approach to working capital and the overall balance sheet.

"This investment is about to begin delivering significant value and our expectations are high as we build momentum and deliver new premium recycled tissue products later this year."

***"This investment is about to begin delivering significant value."***

The tissue segment finished 2012 with a 4% shipment growth for the fourth quarter.

Fourth quarter adjusted operating profit was $10.2m in 2012 compared with $10.4m in 2011.

As a result of the successful Harrodsburg start and other tissue expansion related costs, fourth-quarter adjusted operating results included $2.3m of unabsorbed manufacturing costs.

Full-year adjusted operating profit in 2012 of $41.3m compared with $33.6m last year, with tissue's full-year adjusted EBITDA margin at 20.1% compared with 18.9% previously.

Net sales increased 2.2% and market demand for AfH towel and tissue products increased 1.3%.

Case shipments of tissue's Green Seal-certified products increased 8.5%, and they now represent 54% of total sales compared with 34% five years ago.

Earlier this year, the company started a process to identify "strategic alternatives" for its paper segment that will position its focus on the growth of its tissue business.

The company believes the $220m tissue capacity start-up investment at the Kentucky site will "accelerate the growth of its tissue segment" and broaden its profile in terms of green leadership in AfH markets through enhanced quality and innovative product development.

This follows the exit from its print and colour business in early 2012 when it narrowed the focus of its paper segment to specialty products with leading domestic and global positions in food, industrial and tape markets.

Hank Newell, president and chief executive, said: "Our tissue segment has demonstrated strong profitability and exceptional growth over the last decade.

"We believe our shareholders' interests will be best served through a singular focus on successfully marketing the capacity and capability of our new tissue machine and sustaining the historically strong growth and profit performance of our tissue business."

Wausau Paper produces and markets specialty papers for industrial, commercial and consumer end markets as well as a complete line of AfH towel and tissue products.

The company is headquartered in Mosinee, Wisconsin.

## KRUGER COMPLETES $322 MILLION MEMPHIS TISSUE MACHINE PROJECT AND IS SHIPPING TO CUSTOMERS

Kruger Products has finished the construction phase of its $322 million new through-air-dried (TAD) tissue machine project at its Memphis, TN, mill.

Mario Gosselin, chief executive of KPLP and KP Tissue, said: "We are especially pleased to have completed this phase of the project on time and on budget. The start-up phase has commenced and we are already shipping products to our customers. The TAD project is a key component of KPLP's North American growth strategy."

KP Tissue was created to acquire, and its business is limited to holding, a limited partnership interest in KPLP. It currently owns a 16.9% interest in Kruger Products.

The new TAD tissue machine when fully optimised is expected to increase the company's production capacity by approximately 20%, or 60,000tpy.

Kruger Products tissue brands in Canada include Cashmere, Purex, Sponge Towels, Scotties' and White Swan. In the US, Kruger Products manufactures the White Cloud brand and private label products. Kruger Products is currently a wholly-owned subsidiary of Kruger Inc.

*News from RISI (www.risiinfo.com)*

## CLEARWATER PAPER ANNOUNCES CLOSURE OF THOMASTON; 150 STAFF AFFECTED

Clearwater Paper has announced the planned permanent closure of its Thomaston, Georgia, tissue converting and distribution facility.

The gradual shutdown of converting equipment will occur on a schedule throughout the year, with some operations running into the first quarter of 2014, affecting a total of 150 employees.

Tom Colgrove, president of Clearwater Paper's consumer products division, said: "This has been a difficult decision—one where the company reviewed many scenarios and alternatives to closing the plant.

"We have concluded that consolidating regional converting and permanently closing Thomaston was the solution to best serve the needs of our southeastern customers and improve the overall logistics of our national manufacturing network."

Displaced Thomaston employees will be given an opportunity to apply for open positions at other Clearwater Paper facilities.

The company is also offering separation and incentive pay for employees who remain at Thomaston until their established final day of work.

Clearwater Paper will integrate most of the equipment from Thomaston in its facilities at Oklahoma City and Shelby, N.C.

"Our goal is to provide jobs where possible to our valued employees who are willing to relocate," Colgrove added.

"Where the company cannot do that, Clearwater Paper wants to ensure we are doing as much as we can to help affected employees through this difficult transition."

The cost savings benefits resulting from the equipment relocation and converting facility optimisation, which are part of the company's previously announced cost savings programmes, are expected to be fully realised beginning in the fourth quarter of 2014.

Northern USA

## ST TISSUE; FOURTH NEW US TISSUE PM STARTED IN FOUR MONTHS

In what is a fourth new tissue paper machine to start up in four months in the USA, ST Tissue just began making paper on a converted uncoated freesheet (UFS) machine at the International Paper mill in Franklin, VA.

ST Tissue began production of recycled-content paper for customers at the end of January. The PM's capacity is estimated at 70,000tpy of parent rolls.

The additional capacity from the four PMs that have started is a combined 250,000tpy, or about 2.5% to the North American tissue paper market.

The other three PMs were started up by White Mountain Tissue in Gorham, NH, on 1 October, Wausau Paper in Harrodsburg, KY, the week after Thanksgiving, and Clearwater Paper in Shelby, NC, on 13 December.

***"We are looking to grow in the future, (but) are currently focused on this machine and getting it running to capacity and running efficiently."***

The company has what it said is North America's largest tissue machine with a usable web width of 310".

The width of the tissue machine will enable the company to offer a variety of trim sizes and its onsite recycled fibre plant will allow it the flexibility to transform waste paper into different grades of recycled pulp.

A spokesman for the business told TW he couldn't comment on any other machines that have started up at this time.

He added: "We are looking to grow in the future, (but) are currently focused on this machine and getting it running to capacity and running efficiently."

Spain

## SPANISH TISSUE MAKER VIRTISÚ ON THE LOOKOUT FOR INVESTOR

Spanish tissue producer Virtisú is facing serious financial difficulties and is looking for an investor to safeguard its future.

The Virtisú mill in Zalla, northern Spain, a subsidiary of the Jofel group, used to produce around 40,000tpy of tissue on two machines.

However, at the time of going to press, the mill reportedly had to idle both machines due to a lack of raw materials last year.

According to regional newspapers, one production unit was already put out of action in May last year, while the second one was shut down in December.

Now the government of the province of Biscay revealed that Virtisú is in urgent need of an investor.

Jofel reportedly is in talks with two potential new owners for the mill, but was not available for comment.

***'Virtisú has reportedly been unable to overcome the economic and financial crisis in Spain.'***

The provincial government saved Virtisú from closure in 2006. At the time, it bought the mill's land and machinery for some Euro 15 million ($20 million) in a move to safeguard the 105 jobs at the site.

The agreement provided for Virtisú to rent back the production equipment and the land from the government until 2020.

However, Virtisú has reportedly been unable to overcome the economic and financial crisis in Spain.

According to the government of the province of Biscay, the firm's employees have not been paid their salaries and wages since November, nor did they receive their Christmas bonuses.

*News from RISI (www.risiinfo.com)*

## SPAIN'S TISSUE MAKER CELULOSAS DE HERNANI AND RECYCLED CONTAINERBOARD PRODUCER PAPELERA SILLA GO BUST

Two more small paper mills in Spain have fallen victim to the economic crisis in the country.

Spain's official state bulletin announced in late January that the relevant courts in San Sebastián, northern Spain, and Valencia, on the eastern cost of the country, approved the initiation of insolvency proceedings over the assets of Celulosas de Hernani and Papelera Silla.

Celulosas de Hernani used to produce some 37,000tpy of tissue on two machines.

According to regional media, production at the site has been down since the end of July.

The mill's employees were temporarily laid off in mid-September.

Papelera de Silla, which specialised in the production of recycled containerboard and had a capacity of around 30,00tpy, shut up shop at the end of July, after it was unable to find an investor.

*News from RISI (www.risiinfo.com)*

France

## SCA CONSULTATION PUTS 162 JOBS AT RISK

SCA has started consultations with former Georgia-Pacific staff in France in a move that could affect 162 jobs.

Following its acquisition of G-P's EMEA tissue business in July last year, a spokesman for the business told TW: "As an important step in the overall integration process, SCA started consultations with employees and its representatives affected by the integration.

"SCA will operate in full accordance with SCA's core values and Code of Conduct as well as the relevant legal framework and requirements."

The consultation process started on 30 and 31 January and the re-organsation project in France encompasses marketing, sales and support function activities.

***"As an important step in the overall integration process, SCA started consultations with employees and its representatives affected by the integration."***

He said: "In France, our initial estimates indicate a potential redundancy of 162 positions.

"However, taking into consideration positions that are already vacant, potential job reassignments and internal mobility, the impact would potentially be limited to 90 to 100 jobs redundancies.

"We will do our best to minimise the potential impact on staff and give highest priority to internal job reassignments and internal mobility."

As to whether SCA will look to close any mills in France, he added that the manufacturing activities were "out of scope".

Sweden

## DUNI TO CLOSE PART OF REXCELL TISSUE & AIRLAID PRODUCTION UNIT

Duni has entered into trade union negotiations with the intention to close one of three production units in its Rexcell Tissue & Airlaid subsidiary, putting the jobs of 110 staff at risk.

The unit in Sweden produces and sells material focused on the hygiene products sector, and the company said it is not profitable.

It is expected to be fully closed during the first quarter of 2014.

A company spokesman said: "Duni's core business comprises products which enhance the atmosphere around the set table and it is there that the company shall grow."

The consequence of the decision is that, after having attempted to develop the business, Duni will no longer continue to invest in the production of input materials for the hygiene products sector.

- **Net debt is expected to fall in the long-term.**
- **Reduction in sales is not expected to have any negative impact on operating income of the Duni Group**

"The decision is a difficult one since it affects many people, but it is important for Duni to follow the strategy and focus on the business which provides the best return for the future," the company added.It added that the assessment has been made that acceptable profitability cannot be achieved in the foreseeable future.

The decision concerns around 110 employees at the Rexcell subsidiary.

The closure of the unit entails a one-off cost of SEK 83m which was incurred in the fourth quarter of 2012.

However, it is expected that Duni's net debt will fall in the long-term as a consequence of the decision and that sales from the production unit primarily comprise external sales for the tissue business area.

The reduction in sales is not expected to have any negative impact on the Duni Group's operating income.

## SCA REPORTS INCREASED TISSUE OPERATING PROFIT AFTER YEAR OF ACQUISITION

SCA has reported an increase in its tissue division's operating profit of 47% to SEK 4,640m in its year end report.

The company put the increase down to a number of factors, including higher prices, an improved product mix, higher volumes, acquisitions, lower raw material costs and cost savings all contributed to the improvement in earnings.

Net sales for the division, which has a 49% share of the group's net sales, increased 8% to SEK 42,375m during 2012 compared with the same time a year ago.

Sales of consumer tissue rose 21%, mainly due to acquisitions in Europe and Latin America, while a 14% increase in AfH tissue sales related to acquisition in Europe. Sales in emerging markets rose by 19%.

In 2012, SCA completed the acquisition of Georgia-Pacific's European tissue operations and the divestment of its packaging operations, excluding the two kraftliner mills in Sweden.

**Competitive strength: President and chief executive Jan Johansson**

It also acquired the outstanding 50% interest in the Chilean hygiene products company PISA and an additional 5% of shares in the Chinese tissue company Vinda, as well as the acquisition of Asian personal care company Everbeauty.

***"Net sales for the division, which has a 49% share of the group's net sales, increased 8% to SEK 42,375m during 2012."***

President and chief executive Jan Johansson said: "The Georgia-Pacific acquisition boosts our competitive strength in the European tissue market and complements our market positions.

"The acquisition will lead to annual cost synergies of EUR 125m, with full effect from 2016."

## SWEDISH COURT FINES SCA SEK 1.5M FOR FATALITY AT EDET TISSUE MILL

The Vänersborg District Court has ordered SCA to pay a fine of SEK 1.5m following a fatality at its Edet tissue mill in southern Sweden.

The verdict concerns a 38-year-old female contractor who was squeezed to death in a converting machine on 25 October 2009.

The court found, among other things, that the machine in question did not fulfill all basic security requirements and that it had not undergone enough risk assessments.

The court stated that the person or persons responsible for the work environment at the mill had caused the death of the worker through negligence.

The prosecutor was originally seeking a SEK 2m fine. SCA contested the prosecutor's demands, adding that should a fine be levied, it should be SEK 500,000.

Tunde Oyedeji, communications director Nordics at SCA Hygiene Products, said that SCA actively works with security matters in order to identify potential risks for its employees.

"But with such a serious accident, you cannot escape the fact that safety in this case has been unsatisfactory," Oyedeji said.

SCA said it does not intend to appeal the verdict.

While the fine is bigger than SCA wanted, it is also lower than what the prosecutor asked for, which can be considered a reasonable compromise, Oyedeji said.

Prosecutor Kristina Persson said the only thing she might consider appealing was the size of the fine.

However, she added that she had no plans of doing so independently.

*News from RISI (www.risiinfo.com)*

## SÖDRA REPORTS SEK -929M OPERATING PROFIT FOR 2012

**“We were facing a relatively weak economic situation at the start of the year, and it was hoped that the situation would gradually improve. But the opposite was true." Gunilla Saltin, Södra acting chief executive and group president**

Södra has said its operating profit for 2012 amounted to SEK -929m, which it said was a result of the “major economic downturn and a strong Swedish krona”.

Net sales fell by SEK 1,384m to SEK 16,807m. The company said 2012 was characterised by very weak development in the markets for Södra products.

Net sales fell, mainly as a result of lower pulp and timber product prices and the strengthening of the krona.

***“We hope to see an upturn in the markets for our products in 2013. Towards the end of 2013 we were seeing some stabilisation, mainly in the pulp market.”***

Production at Södra’s industries was also affected by the stoppages which took place at the start of the year.

Production ceased at Södra Cell Folla in November and Södra’s involvement in Södra Cell Tofte will be phased out.

Acting chief executive and group president Gunilla Saltin said: “We were facing a relatively weak economic situation at the start of the year, and it was hoped that the situation would gradually improve.

***‘Pulp production amounted to 1,782,000 tonnes, compared with 1,912,000 tonnes in 2011.’***

“But the opposite was true. As the year continued, we were affected more and more by the major recession in Europe, which is our primary market. This extremely weak market situation has affected all our business areas.”

Pulp production amounted to 1,782,000 tonnes, compared with 1,912,000 tonnes in 2011.

This reduction is explained by the stoppages which took place at the Norwegian mills at the start of the year and the decision to cease production at Södra Cell Folla.

“We hope we will see an upturn in the markets for our products in 2013. The economic situation remains uncertain, but towards the end of the year we were seeing some stabilisation, mainly on the pulp market,” Saltin added.

Global

## K-C ANNOUNCES NET SALES INCREASE; TISSUE DIVISION'S SALES DOWN 2%

Kimberly-Clark (K-C) has reported a decline of 2% to $1.7bn in its consumer tissue division's fourth quarter 2012 sales.

The consumer tissue division recorded a decline of 4% in fourth quarter operating profit to $235m.

It was weighed down primarily by the pulp and tissue restructuring operations that K-C said reduced sales volumes by 3%.

Sales fell 2% in North America compared to the prior year, including a five point negative impact from lost sales in conjunction with pulp and tissue restructuring actions.

Organic sales volumes increased 3%, driven by gains in bathroom tissue and paper towels.

Sales increased 1% in K-C International while sales in Europe decreased 7%. K-C's strongest performance for the quarter was in personal care products which enjoyed a net sales increase of 8%.

The company's recent strategic shift towards emerging economies where demand is booming as a result of increasing disposable income has led to the increase.

***"Q4 capped an excellent performance. 2013 will target growth initiatives, product innovations and increased strategic marketing spending ... plus healthy levels of cost savings."***

For the group, fourth quarter 2012 net sales increased 3% to $5.3bn compared to the same time a year earlier. Organic sales exclude the impact of changes in foreign currency rates and lost sales as a result of pulp and tissue restructuring actions.

However, operating profit was down 27% to $449m in the fourth quarter of 2012.

Chairman and chief executive Thomas Falk said: "Our fourth quarter results capped off a year of excellent performance for Kimberly-Clark.

"For the full year of 2012, we delivered organic sales growth of 5%, highlighted by 10% growth in K-C International. In 2013, we will continue to pursue targeted growth initiatives, launch product innovations and support our brands with increased strategic marketing spending.

"We expect to achieve healthy levels of cost savings, which should help us overcome moderate commodity cost inflation."

The business also gained benefits from organic sales growth and $80m in cost savings from the company's FORCE (Focused On Reducing Costs Everywhere) programme.

## TOSCOTEC STARTS UP 10 TISSUE MACHINES

**One of the Toscotec machines (MP Hygiene's Annonay, France-based mill)**

Toscotec starts up 10 tissue machines Italian tissue machine supplier Toscotec has started up 10 tissue machines in three months in Africa, Europe and Asia.

This includes turnkey projects, tissue plants equipped with AHEAD 1.5 M and MODULO Plus in Energy Saving configuration with different scopes of supply, and all include engineering and overall services.

Its customers include Vinda, Sipat, C&S Paper and MP Hygiene.

Davide Mainardi, Toscotec sales and customer care director, said the company is expecting to see continued tissue growth in the Far East and China in particular.

He told TW: "The challenging areas will be South America and Russia, but North Africa could also be a surprise.

"Toscotec will be targeting China, Russia, Eastern Europe, Africa and America as we don't want to leave western Europe where we are considered leaders. We are looking to the global market and we don't want to be considered just as a Chinese supplier."

Germany

## GERMAN GRAPHIC PAPER PRODUCTION DECLINES AS TISSUE INCREASES

The German paper industry felt the effect of a structural change last year.

According to the country's pulp and paper association, Verband Deutscher Papierfabriken (VDP), 2012 saw a sharp decline in the production of graphic paper, while the output of packaging and tissue paper increased.

The figures provided by the VDP show that the production of graphic paper dropped from 9.6 million tonnes in 2011 to just under 9.2 million tonnes last year.

The packaging and tissue sectors, on the other hand, saw production rise by 2.9% and 1.6% year-on-year to 10.5 million tonnes and 1.4 million tonnes, respectively.

***'The packaging and tissue sectors saw production rise by 2.9% and 1.6% year-on-year to 10.5 million tonnes and 1.4 million tonnes, respectively.'***

The output of specialty paper amounted to 1.5 million tonnes last year, 1.9% more than in the previous year.

According to VDP president Moritz J. Weig, changing media habits led to a noticeable decline in demand for graphic paper. Consequently, production in this sector fell by 4.7% last year.

Germany's total paper production amounted to 22.6 million tonnes last year, slightly down from 22.7 million tonnes in 2011. The country's shipments dropped from 22.7 million tonnes to just under 22.6 million tonnes.

While domestic deliveries fell by 2.2% from 12.5 million tonnes in 2011 to 12.2 million tonnes last year, Germany's paper and board exports rose by 1.6% to 10.3 million tonnes.

As the VDP further revealed, the sector's sales declined 4.8% to Euro 14.7 million ($19.6 million) last year. The number of employees decreased by 2.1% to 40,400.

On the raw material front, chemical pulp production rose 2.0% year on year to 1.6 million tonnes in 2012. Consumption was largely stable at around 4.6 million tonnes.

Mechanical pulp production amounted to 1.0 million tonnes in Germany last year, 10.3% lower than in 2011. Mechanical pulp consumption dropped from 1.3 million tonnes to 1.2 million tonnes.

*News from RISI (www.risiinfo.com)*

### Paper and Board by Grade

German Pulp and Paper Association
Adenaueralle 55
D- 53113 Bonn
Tel. 0228 / 26705-0

in 1.000 t

| | 2012 | 2011 | 12:11 |
|---|---|---|---|
| **Graphic Paper** | | | |
| **Production** | 9.180 | 9.631 | -4,7 |
| **Total Deliveries** | 9.127 | 9.627 | -5,2 |
| Domestic Deliveries | 4.721 | 4.943 | -4,5 |
| Total Exports | 4.406 | 4.683 | -5,9 |
| Exports to western europe | 2.832 | 2.964 | -4,5 |
| Exports to eastern europe | 775 | 868 | -10,7 |
| Exports to other regions | 799 | 851 | -6,1 |
| **Paper and Board for Packaging** | | | |
| **Production** | 10.510 | 10.213 | 2,9 |
| **Total Deliveries** | 10.486 | 10.148 | 3,3 |
| Domestic Deliveries | 5.180 | 5.244 | -1,2 |
| Total Exports | 5.305 | 4.904 | 8,2 |
| Exports to western europe | 3.271 | 3.046 | 7,4 |
| Exports to eastern europe | 1.524 | 1.463 | 4,2 |
| Exports to other regions | 510 | 394 | 29,6 |
| **Other Paper and Board** | | | |
| **Production** | 1.511 | 1.483 | 1,9 |
| **Total Deliveries** | 1.494 | 1.480 | 0,9 |
| Domestic Deliveries | 924 | 938 | -1,5 |
| Total Exports | 570 | 542 | 5,2 |
| Exports to western europe | 270 | 262 | 3,1 |
| Exports to eastern europe | 176 | 162 | 8,6 |
| Exports to other regions | 124 | 118 | 5,1 |
| **Tissue** | | | |
| **Production** | 1.399 | 1.377 | 1,6 |
| **Total Deliveries** | 1.441 | 1.413 | 2,0 |
| Domestic Deliveries | 1.402 | 1.382 | 1,5 |
| Total Exports | 39 | 32 | + |
| Exports to western europe | 23 | 19 | + |
| Exports to eastern europe | 13 | 12 | + |
| Exports to other regions | 3 | 0 | + |

UK

## STAR TISSUE INVESTS AFTER INCREASE IN CUSTOMER DEMAND

Star Tissue has bought a PCMC AMICA Industria to boost the quality of its products and bring greater efficiency to its UK-based production unit.

The company commissioned the machine on 1 March and it is now in full production.

Abid Ditta, director at Lancashire-based Star Tissue, said the 36-staffed company made the investment in response to an increase in customer demand for its products.

"We bought the machine primarily to enhance the quality of our products and to increase our production capacity to meet the needs of our diverse customer base.

***"We made the investment in response to an increase in customer demand for our products." Abid Ditta, director at Lancashire-based Star Tissue***

"It allows us to offer superior products in the market place with the latest ply bonding technology - ply lamination. It has also widened our product offering."

The company is in the first year of a three year investment programme and has had planning permission granted to build an extension to its industrial unit.

The move will add an acre onto the existing site and enable the business to invest in further machinery to give it the capacity to convert another 15,000 tonnes of tissue annually.

The company manufactures away from home hygiene paper products, private label products for major suppliers and distributors in the personal hygiene sector, as well as the UK and Ireland catering and medical markets.


**Star Tissue's new PCMC AMICA Industria line**

## shortissues

**Södra** has raised the price of its softwood pulp to US$ 860.00 and hardwood pulp to USD 820.00 per tonne in Europe. The price hike came into effective on 1 March 2013. The company said that seasonal improvement together with maintenance shutdowns will improve the market balance further in spring 2013. The company was unable to comment further at this time.

Tissue giant **Cascades** has announced a series of changes to its management team including the appointment of Jean Jobin to the position of chief operating officer. Jobin joined Cascades in 1992 and he is currently executive vice-president of Away from Home (AfH) products in North America. Stéphane Rousseau has also been appointed as executive vice-president, AfH products in North America, and Eric Ellyson will take up the position of executive vice-president, consumer products Canada.

# Indonesia – an emerging products

Indonesia currently produces 750 thousand MT/Yr of Towel and Tissue (T&T) paper. That makes Indonesia the largest T&T producing nation in the Southeast Asia Geographic Zone* and eleventh largest in the world. This capacity is coming from a combination of smaller mills with modest machines to a very large complex with several mid-sized machines. Growth has been accelerating with many new machines coming on line in the past 10 years.

A nation of nearly 250 million and growing, Indonesia is the fourth most populated country in the world. The economy of Indonesia is sixteenth in the world and showing sustained solid GDP growth in the 6% to 6.5% range over the past three years. During the global recession Indonesia outperformed its regional neighbours joining China and India as the only G20 members posting growth in 2009. The government has promoted fiscally conservative policies, resulting in a debt-to-GDP ratio of less than 25%, a fiscal deficit below 3%, and historically low rates of inflation. However, Indonesia still struggles with poverty, unemployment, inadequate infrastructure and a complex regulatory environment. The government in 2013 faces challenges of improving Indonesia's insufficient infrastructure to remove impediments to economic growth. They also need to reconsider their fuel subsidy programme in the face of high oil prices. Geography presents some challenges as well. Indonesia is the largest archipelago nation in the world with more than 17 thousand islands. The nation is in a geologically active region where quakes are common, with some leading to significant tsunamis. The area is also susceptible to severe weather and typhoons.

Indonesia's T&T mills are located on the two large islands of Java and Sumatra (Maps 1 & 2). The country ranks first among the five T&T producers in the Southeast Asia Zone (Figure 1) significantly ahead of the other four countries combined. This is noteworthy because the number of machines in Indonesia is the largest (Figure 2), but not to the degree that answers for the production differences. T&T machines in Southeast Asia vary from narrow two-metre machines to six-metres. The machines in Indonesia are on the high-end of the trim range for the region, with the average being in the 3.0 metre range (Figure 3). On average, mill production in Indonesia is higher than that of the remaining mills in Southeast Asia with averages at 30,000 MT/Yr. What is more, the technical age of the machines is among the youngest averaging at approximately 11 years (Figure 4). Fibre mix at Indonesian mills is heavily weighted to virgin pulp which is a deviation from the other Southeast Asia countries which use significant amounts of recycled fibre (Figure 5). The heavy reliance on virgin fibre is reflected in Indonesia's position on a cost curve resulting in a middle of the pack cost position (Figure 6). Indonesia's position would be even higher if not for very low labour and energy rates.

T&T machine production rates in Indonesia tends to be dispersed with nearly as many machines producing less than 10,000 MT/Yr as there are above that rate (Figure 7). The number of mid-sized machines helps lift the production rate for the country. Machine trims in Indonesia cover the spectrum of mid (3m – 5m) to very narrow (less than 2.5m) with the average being 3m (Figure 8). Machine speeds are equally dispersed with as many at less than 1,000mpm in speed as there are at higher rates (Figure 9). On the international scale, Indonesian machines tend to have above average capacity and newer than average ages (Figure 10). The source for market data and analysis in this article is FisherSolve™.

*Data tables behind Figures 1 - 10 can be obtained from Fisher International. E-mail requests to info@fisheri.com.*

*The following countries comprise paper producers in the Southeast Asia Geographic Zone: Indonesia, Laos, Malaysia, Myanmar (Burma), the Philippines, Singapore, Thailand, Vietnam. T&T producers in the same region are Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.

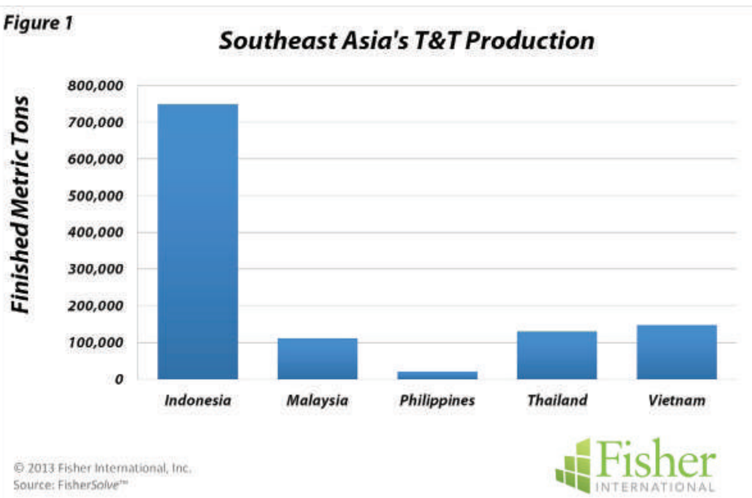



**Figure 1 Distribution of T&T production in Southeast Asia.**

By BILL BURNS
Senior Consultant, Fisher International

# global supplier of T&T

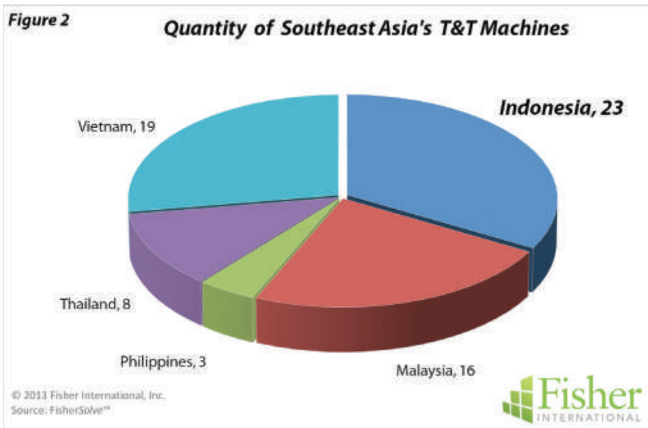



Figure 2 Distribution of T&T paper machines in Southeast Asia.

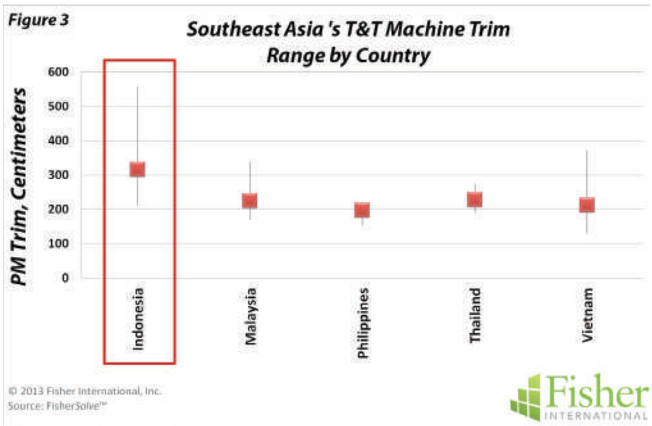



Figure 3 Distribution of T&T paper machine trims in Southeast Asia.

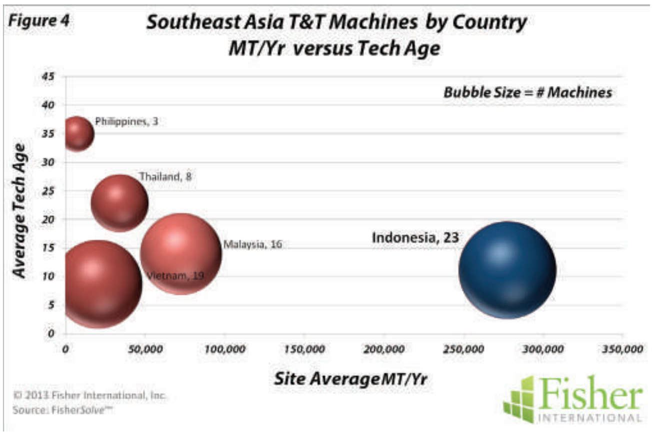



Figure 4 Technical Age and production volume comparisons for Southeast Asia T&T paper machines.

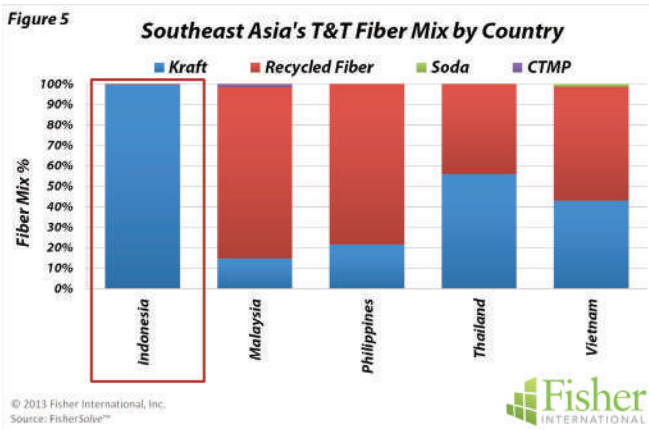



Figure 5 Fibre mix comparison for Southeast Asia's T&T producing countries.

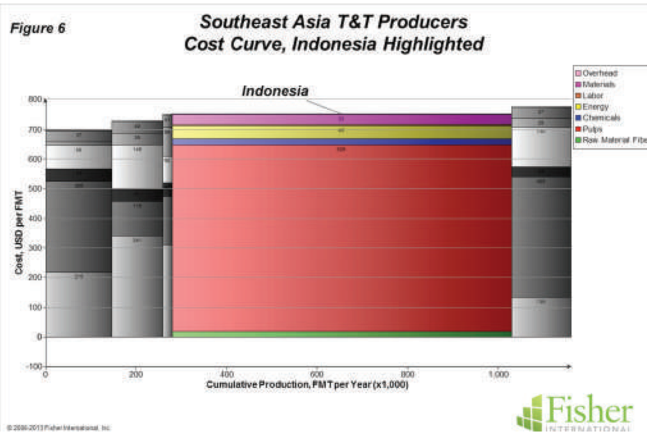



Figure 6 Southeast Asia country level cost curve for T&T production with Indonesia highlighted.

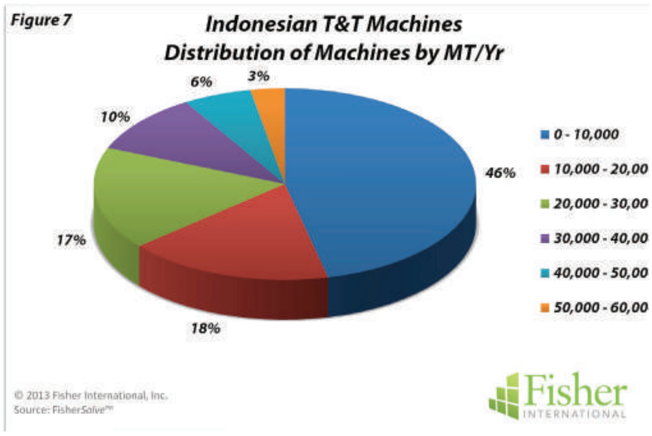



Figure 7 Distribution of Indonesian T&T paper machines by production rate.

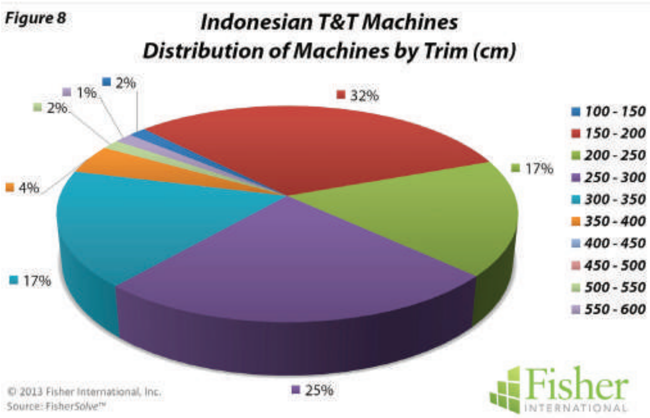



**Figure 8 Distribution of Indonesian T&T paper machines by trim class.**

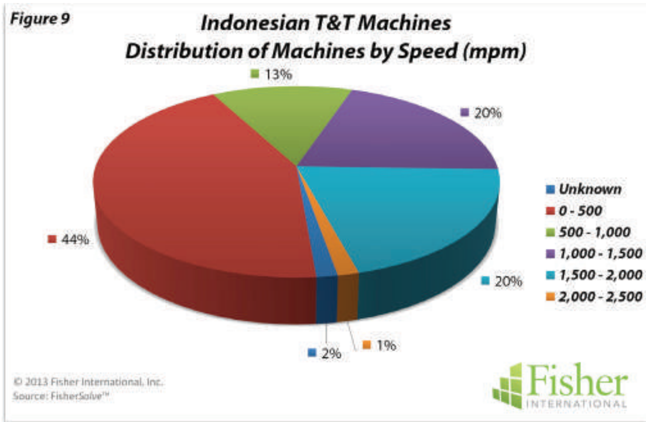



**Figure 9 Distribution of Indonesian T&T paper machines by speed class.**

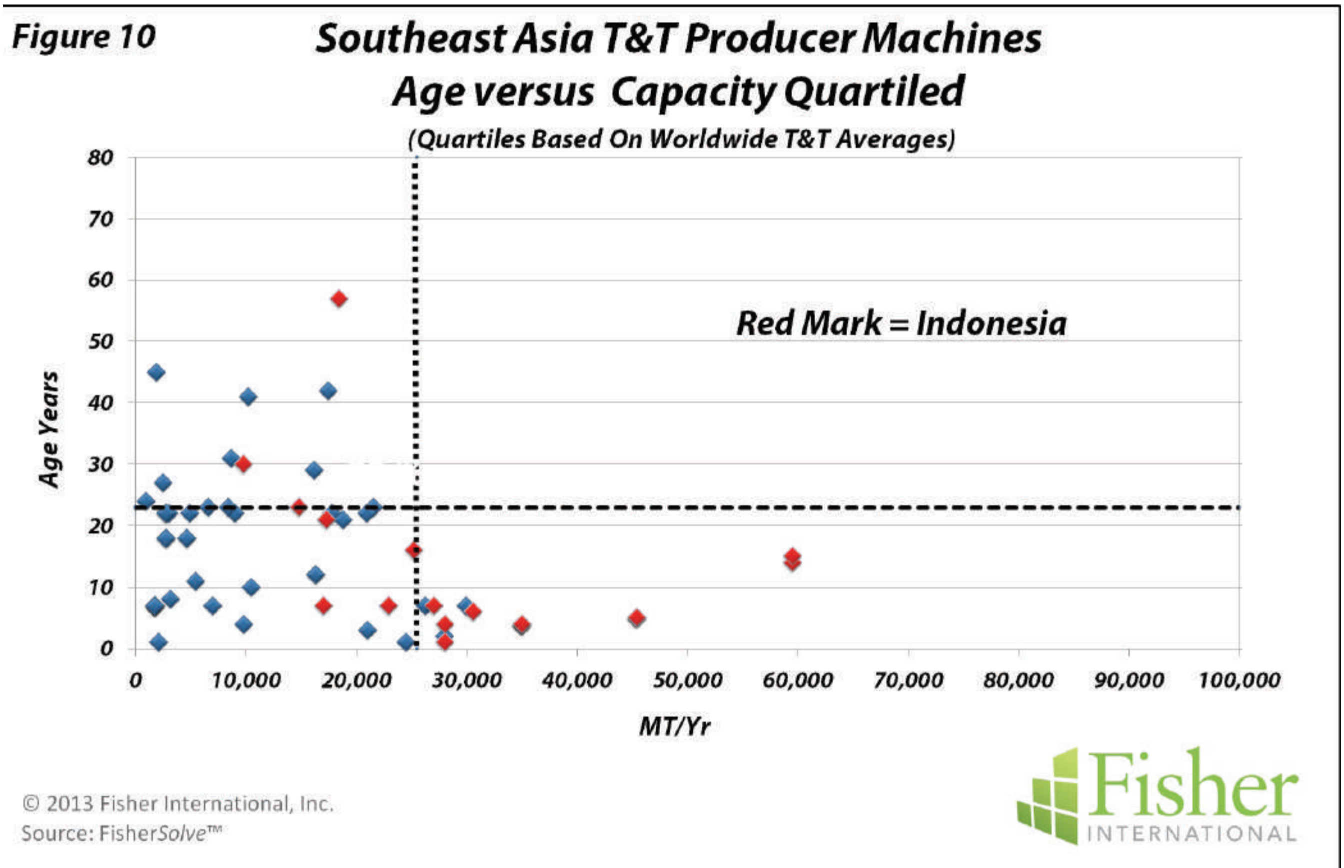


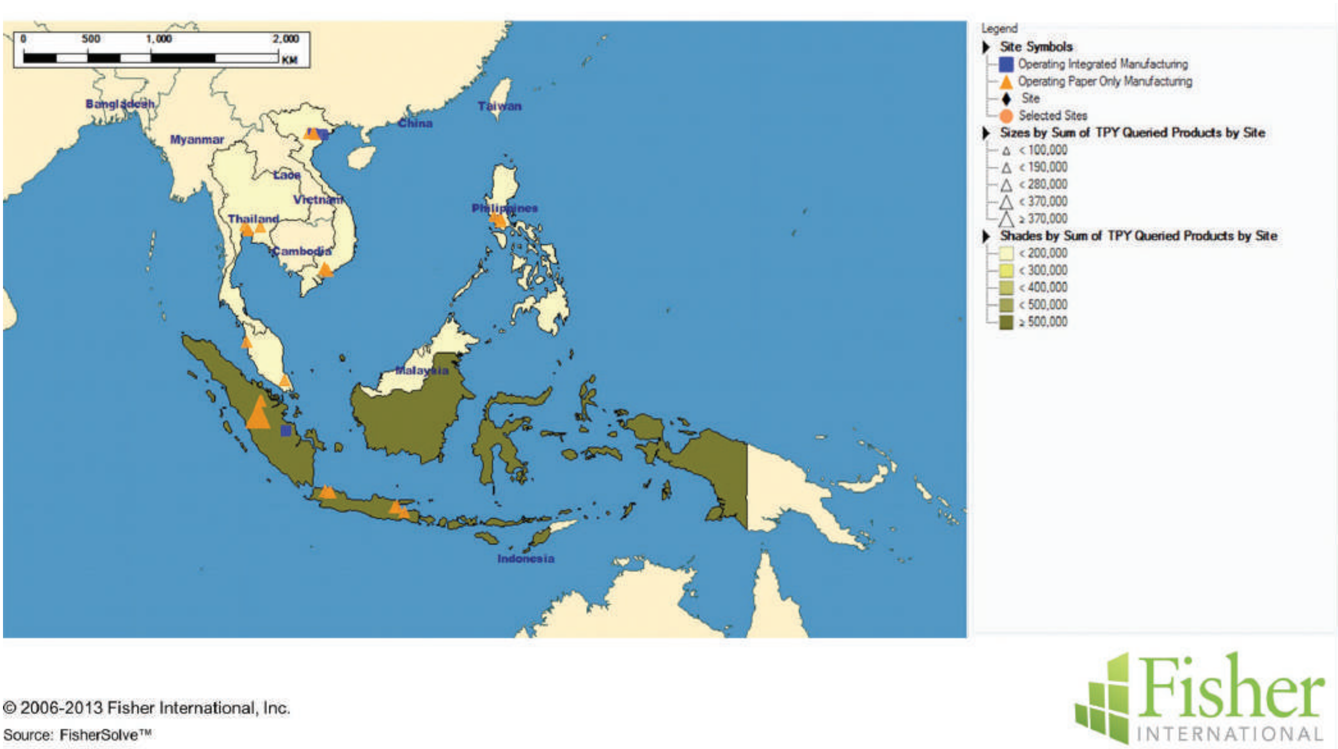

**Figure 10 Dispersion of European Union T&T paper machines against worldwide average production and age.**

**About Fisher International, Inc.**

Fisher International has supported the pulp and paper industry for over 25 years with business intelligence and management consulting. Fisher International's powerful proprietary database, analysis tools, and expert consultants are indispensable resources to the industry's producers, suppliers, investors, and buyers worldwide.

FisherSolve™ is the pulp and paper industry's premier database and analysis tool. Complete and accurate, FisherSolve is unique in describing the assets and operations of every mill in the world (making 50 TPD or more), modeling the mass-energy balance of each, analyzing their production costs, predicting their economic viability, and providing a wealth of information necessary for strategic planning and implementation. FisherSolve is a product of Fisher International, Inc. For more information visit: www.fisheri.com or email info@fisheri.com USA: +1-203-854-5390

## Map 1 Southeast Asia Operating T&T Mill Locations




**Map 1 T&T operating mill locations in Southeast Asia.**

## Map 2 Indonesia's Operating T&T Mill Locations


**Map 2 T&T operating mill locations in Indonesia.**

# Indonesian tissue market: a barometer of socio economic development

Indonesia is somewhat typical of an emerging market where a heady combination of rapid economic growth, accelerated urbanisation and the westernisation of consumption culture has proved a major boost to fast moving consumer goods. Interestingly, however, whilst the country ranks 70th (out of the top 80 world economies) in terms of per capita income, tissue consumption continues to lag behind,

***'Tissue sales reached US$68 million in Indonesia in 2012, which was slightly ahead of the much more populous Indian market (at US$64 million).'***

ranking 77th, with reported annual per capita spend of US$0.30. Although per capita spend remains low, the rate of increase has been phenomenal, tripling over the last decade, but the key to understanding this somewhat confusing set of statistics is to see tissue sales (and hygiene for that matter) as still very much the preserve of the middle-classes in Indonesia.

Tissue sales reached US$68 million in Indonesia in 2012, which was slightly ahead of the much more populous Indian market (at US$64 million); this is still evidence of narrow acceptance and also issues of affordability and even applicability, which tissue products suffer from across the breadth of both populations. Taking a more positive view, the Indonesian market for tissue is certainly heading in the right direction and is fast becoming a symbol of modernity through new modes of consumption, with the middle-classes today painting a picture of how the mass of Indonesian consumers may be behaving in 10 or 20 years hence.

## MODERN RETAIL CHANNELS DOMINATE DISTRIBUTION

An illustration of the 'narrowness' of the tissue consumer base is reflected in the importance of 'modern' retail channels, with supermarket and hypermarket retailers accounting for 60% of tissue value sales. The position of modern retail outlets, and particularly the more affluent urbanites these products appeal to, is evident given that modern retail was responsible for less than 20% of total grocery retail sales in 2012.

Other areas of modernisation have also proved significant to the rapidly developing Indonesian tissue market. Household possession of a flush toilet has, for example, increased as plumbing and waste treatment has

***'Over the long term the Indonesian market is likely to continue to post strong value growth.'***

improved, boosting the possession rate from just over 50% in 2000 to close to 70% in 2012. Whilst the pervasion of 'sit' rather than 'squat' toilets has seen the westernisation of toilet culture by encouraging the use of dry paper over washing with water, toilet paper has also benefited from its inherent versatility and low unit prices.

## PRICE INFLATION ENCOURAGES BUDGET BRAND OFFERINGS

While unit prices of toilet paper are relatively low, the Indonesian market has suffered from inflation thanks to persistently high pulp prices, which have adversely impacted usage further down the income ladder. The influence of inflation is perhaps best illustrated by the fact that value sales saw a 10% increase over 2011/2012 whilst volume increases were reported at half this rate, indicating a more pedestrian increase in per capita tissue consumption. Rising prices only served to reinforce the status quo in 2012 as sales were further restricted to the more affluent middle-classes and to

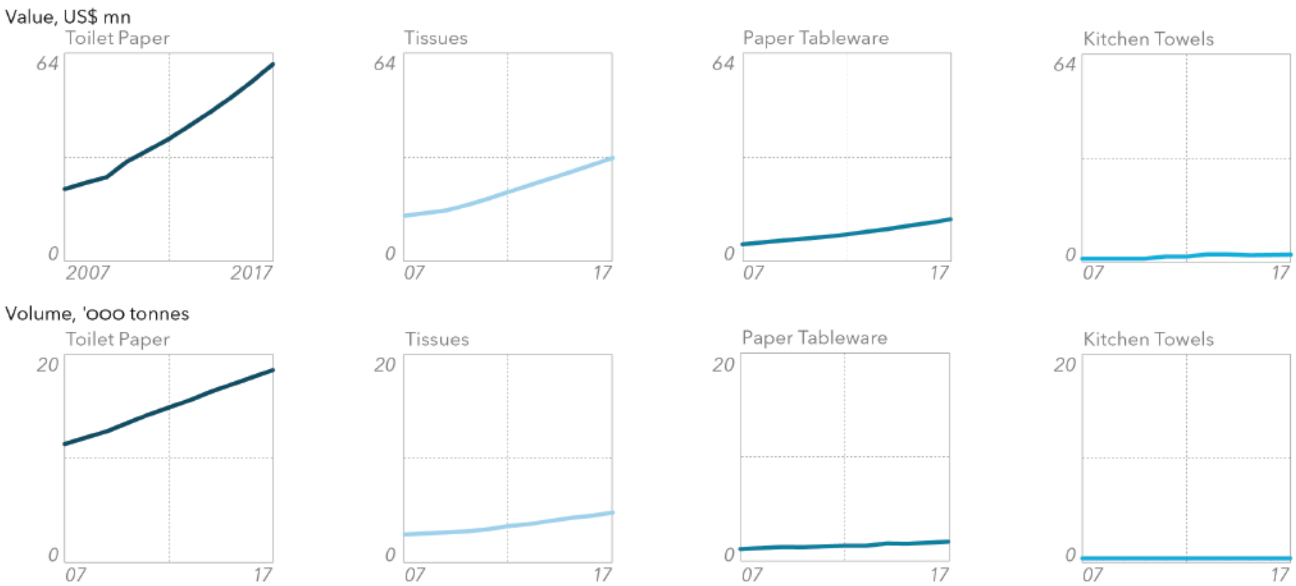
*By* **Ian Bell**

*Euromonitor International's global head of tissue and hygiene research*

**DATAGRAPHIC** TISSUE AND HYGIENE

## Indonesia Tissue, Drivers for Dynamic Growth

**Tissue Categories**
Value and Volume Growth
2007-2017, US$ million/'000 tonnes




POPULATION IN MILLIONS
**246**
3rd largest in Asia Pacific

FLUSH TOILET
**70%**
household possession rate

DISPOSABLE INCOME
**2089**
US$ per capita

EUROMONITOR INTERNATIONAL



modern retailers which increasingly used price promotions and larger pack sizes as a means to offer consumers better value for money, a tactic which again reinforced the primacy of middle-class consumers.

***'Consumers' eye for a bargain helped the value share taken by private label continue to increase to 8% in 2012'***

An example of this migration to value products as well as the dominance of modern chained retailers came from the widening availability of private label products. While in many developing countries consumers are still looking for brands and are unfamiliar with the concept of retailers' (own) brands, this was not true of Indonesia where the popularity of retailers such as Carrefour as well as consumers' eye for a bargain helped the value share taken by private label continue to increase to 8% in 2012, way ahead of similarly positioned (in terms of income) developing markets.

### MEDIUM-TERM OUTLOOK

Over the long term the Indonesian market is likely to continue to post strong value growth, with volumes likely to follow in the wake of what seems to be a period of greater stability in global raw material prices. The current period of economic and political stability appears set to continue, bringing with

***'The current period of economic and political stability appears set to continue.'***

it further liberalisation and ultimately westernisation of Indonesian lifestyles, which should help underpin the tissue industry, along with population growth. In every sense, Indonesia has the right mix of ingredients to be a key and successful tissue market for quite some time to come.


Polished performer: Paul Ashcroft in action during a demanding hill climb

# 'When cooking and cleaning, and polishing the bike... nothing beats the kitchen towel'

*Paul Ashcroft lives in the picturesque village of Rivington in the north west of England. He works in the water industry and in his spare time he is a keen traveller and cyclist. He is a tifoso ... a regular follower of the Tour de France. Here he explains why he has an almost compulsive overuse of kitchen towel and a distaste for 'greaseproof paper' toilet roll.*

Apart from loo roll I have to confess to an almost compulsive overuse of kitchen towel. I have tried to limit this but its versatility when cooking or cleaning combined with ease of use and dispatch leave me reaching for the roll time and time again. I am conscious of my weakness but maybe with the emphasis on recycling in the UK it feels almost like the over use of certain products can be tolerated as they are going to the recycling plant, thus eliminating some of the guilt. Maybe recycling campaigns should target the usage of a product more often, as well as the manner of its disposal?

I try to balance my overuse of kitchen towel with the fact that I seldom use tissues. In fact, I cannot remember the last time I bought tissues. This is mostly down to the fact I never blow my nose. I have a vague recollection of once trying but ended up with an awkward impersonation of somebody blowing their nose in order to placate any potential eavesdroppers. This may seem strange but I actually don't think I know how to nor understand the technique behind it. It's very rare I get a cold or runny nose and in my day-to-day life I don't feel the need or desire to blow my nose.

In my working life I use screen wipes for my computer but only sparingly as they seem to be an indulgence I can live without. My hobbies are mostly of a cycling nature and in the cleaning of my bicycle I will use multi-purpose cloths for the most part and (yet more) kitchen towel for the finishing touches. I find the multi-purpose cloths entirely unsuitable and each time make a mental note to use something else next time, though due to the low cost of the product (and until somebody markets something with 'bicycle cleaning cloth' written on it in big letters) I will invariably reach for the same thing again. Occasionally, for a special race or event, I may give the bike a once-over with a few wet wipes or a furniture polish/kitchen towel finale to give it a sparkle.

***'My one quirk is to stay away from anything marketed as 'Quilted' or 'Three ply'.'***

My one quirk is to stay away from anything marketed as 'Quilted' or 'Three ply'. The added cost to my pocket and apparent wastage seems like a step too far for a misguided feeling of opulence. As long as my loo roll isn't of the 'greaseproof paper' variety of my school days where the aim seemed to be to spread the damage rather than remove it, I am happy enough, so long as it gets the job done. I will usually go for, and actively seek out, the recycled packs in supermarkets but find the better deal for the consumer is currently found in one of the vast number of discount stores in the UK. Usually the cost can be halved for both loo roll and kitchen towels compared even to supermarkets. The one down-side to this is that the goods are seldom recycled or fair trade. In an ideal world all products would have come from recycled sources but from memory and experience there only ever seems to be one or two recycled products in an entire aisle and special offers seem only to promote non-recycled goods.

# Adapting to an ever-expanding global market from humble beginnings

With a new business and substantial investments underway, TW meets integrated Indonesia manufacturer Sopanusa Tissue

By **Helen Morris**, *Tissue World Editor*

It takes one and half hour drive from Juanda International Airport in Surabaya to reach PT.Sopanusa Tissue. We travel along a road crammed with what seems like thousands of motorcycles, cars, lorries and bikes, colourful road-side stalls and houses, mosques and statues, and the sheer volume of trucks carrying goods confirming just how much this is a country on the rise.

On 20 hectares of land, the mill is run with some 400 staff, and the beautiful Penanggungan mountain towering 2,400 metres above the facility gives a hint of the grander ambitions which lie within.

Sopanusa is rapidly expanding this site, its market strategy is progressive, and its ambitions for consistent growth are measured on a global scale.

TW meets the mill's head Endah Tjahjani, regional sales manager Tjahjadi Hari Surjono, marketing general manager Merlyna, and director Danny Kristono. Touring the mill's facilities, the dedication of the young but dynamic staff is evident throughout the whole premises.

***"The Indonesian tissue market has made significant strides forward in the past few decades"***

TW first met Sopanusa in 2007 when it was a very young company having been established in May 1995, and in those few years since the privately owned business has substantially ramped up its growth strategy. Its potential more than ever now lies almost solely abroad in the tissue jumbo reel export market. It exports 85% of its jumbo roll capacity to 60 countries (in 2007, it was just 25), supporting independent producers across the five continents. Some finished products are also exported to Australia. Tjahjadi told TW: "We are looking to export more and more into new areas, which is one of the reasons we needed to expand, so we created a new company, Sun Paper Source, and will have an additional two machines running in the next two years. This will double our capacity to 108,000 tpy."

**FACTFILE:**

| | |
|---|---|
| Established: | May 1995 |
| Located: | Mojokerto, East Java |
| President director: | Dermawan Suparsono |
| Customers: | Carrefour, Kimberley-Clark, McDonalds |
| Machines: | Fourdrinier supplied by Beloit / a Crescent Former supplied by Recard |
| Products: | facial tissue (11gsm-15gsm, 1ply–3ply). Toilet tissue (15gsm-20gsm, 1py-3ply), napkin tissue (16gsm-20gsm, 1ply-3ply), kitchen towel (20gsm-24gsm, 1 ply-2ply), hand towel (30gsm-45gsm, 1ply), MG paper (14.5gsm-22gsm, 1 ply) |
| Certifications: | FSC, ISO 9001:2008 |
| Local consumer brands: | Montiss, Sierra, Blissfull, Acura, Finest |
| Tpy: | 54,000 (108,000 with the new company start up) |

The company exports to areas such as the Middle East and South Africa, but its main focus is the South East Asia Pacific, as the freight costs there "are still workable". Significantly, the new company and machinery investments will enable it to expand into new and bigger markets where it had previously not been able to get a foothold.

For the local market, Sopanusa still provides house brands to major local and international retailers, supermarkets, food chains and distributors, and it also has its own brand name. In the Away-from-Home market, it produces OEM brand and special packaging designed products including M Fold towel, jumbo toilet roll, kitchen and towel roll, coreless toilet roll, as well as pocket tissue and pop-up tissue.

"Tissue consumption per capita in Indonesia is still low



**A range of tissue products at the company's site**


**The company's machinery and site based near to Surabaya, Indonesia**

compare to surrounding country, around 0.5 kilos per person per year. But we see big potential to grow. And with the fast growing of middle class in Indonesia, and surrounding country, soon tissue paper will become a necessity in every family life," he adds.

"The Indonesian tissue market has a very unique behaviour in terms of consumption. Many people in local shops or homes will place a toilet roll on the table and use it as kitchen roll or facial roll. The roll's core makes it very easy to use and it's also the right size. It's very much a cultural thing. Things are changing, we are seeing more "Westernised" habits for tissue use, but it does take time to change. There's lots of softpack tissue for example, that's the top seller. Toilet tissue is the largest category followed by facial and napkin tissue."

The Indonesian tissue market has made significant strides forward in the past few decades. In 2006 it exported 2.8 million tonnes of pulp – nearly half of its total production. According to the Indonesia Pulp & Paper Association (APKI) tissue production then was 228,000 tonnes, of which 141,000 tonnes was for domestic consumption and 88,000 tonnes for export. This low consumption has not stopped companies investing in new capacity.

Today, Indonesia produces 750,000mt/y of towel and tissue paper and is the largest T&T producing nation in the Southeast Asia Geographic Zone and eleventh largest in the world. It has experiencing solid GDP growth of 6.5% over the past three years. During the global recession Indonesia outperformed its regional neighbours joining China and India as the only G20 members posting growth in 2009. It still struggles with poverty, unemployment, inadequate infrastructure and a complex regulatory environment, but for its tissue market, the fast growing GDP has crucially resulted in an increase in minimum wage. This has boosted Indonesian's buying power to purchase products such as tissue, and while consumption is low, tissue is growing at 14% year on year.

Once up and running, Sun Paper Source will produce tissue paper on a PM 1, a crescent former machine supplied by Voith with daily capacity around 100 MT. It's scheduled to be producing by September 2013. PM 2 will follow and is scheduled to run in 2014 with daily capacity around 100 MT/day. It joins a Recard 2.85 Crescent Former machine at sister company Sopanusa which was started up at the end of 2006 with a trim of 2.85m and now makes 85 tonnes per day. Four smaller paper machines have also been added, and the company now produces 54,000tpy.

"We will continue to diversify our product offering in order to be competitive on a global scale, the environment is also an area we are keen to explore further." Sopanusa was the first tissue manufacturer company in Indonesia to become FSC certified, which it did in April 2012.

With the additional tissue mill capacity, the company will also increase its finished goods sales. "At the moment, our range of finished goods consist of facial box, facial soft pack, toilet roll, JRT, pop up bathroom tissue, cocktail napkins, luncheon napkins, dinner napkins, compact fold napkins, tall fold napkin, M Fold Hand Towel and hand roll towel. We are looking into developing this further".

Tjahjadi added: "Differentiation is the key to achieving success in today's market and our market strategy is to continue to grow steadily into new markets with a unique product offering to meet a demanding market."

# APP says it's turned the page ... but will the sheet of paper be truly sustainable?

After a significant sustainability announcement in February that grabbed the attention of the world's paper industries and media, TW visited APP in Indonesia to get the latest on the company and its tissue plans.

By **Helen Morris**, *Tissue World Editor*

"We need to be careful where we sell our product," Hoany Muljadi, the Director of Asia Pulp & Paper's (APP) tissue division says from her office in the centre of Jakarta. "It needs to be highly profitable. We need high growth and high margins. We're just starting out in the tissue market and it's not an easy market to enter from outside. So for now our focus is on expanding into China and South East Asia. That's our home market and there's huge potential here, the tissue market is expanding very rapidly."

**Hoany Muljadi, director of APP's tissue division**

We meet in APP's Jakarta-based headquarters, just after a tour of one of the company's largest mills in Indonesia, Pindo Deli 2. APP - the trade name for a group of pulp and paper manufacturing companies in Indonesia and China – is well

***"If we want to enter this market even further we need to educate the consumer about why they need the tissue product. And we need heavy investment, which will mostly be organic. That's our number one strategy."***

known as one of the world's largest integrated pulp and paper companies, and also one of the most controversial. Its relatively new tissue division has continued along an aggressive expansion path - one that has recently been ratcheted up even further after APP declared it wanted to become the world's fourth largest tissue supplier in the next few years.

In Indonesia, APP has four main tissue mills, located on the islands of Java and Sumatra. In 2005, APP purchases ten tissue machines from A.Celli, four of which went to the new mill of one of its companies, Pindo Deli Pulp and Paper Mills in Perawang, Sumatra. Pindo Deli itself already has mill 1 and 2 in Karawang, West Java. Additional tissue machines at the Pindo Deli Perawang facility have since been constructed and there are now 16 tissue machines as well as several converting machines. Pindo 2 has one big tissue machine, an Andritz Crescent Former, and, about 57 converting units with a full capacity of over 8000MT.

In the pulp, paper and tissue industries the company is known for its aggressive expansion plans, but it is known even more for its on-going battle with NGOs over its alleged destruction of natural forest in Indonesia. However, just over two months ago the company made a statement – unusually by the APP chairman Teguh Ganda Wijaya himself - that made the world's media and paper industries sit up and pay attention. On 5 February, APP committed to an "immediate halt" in the clearing of all natural forest across its entire supply chain in Indonesia. Its Forest Conservation Policy includes: the suspension of natural forest clearance which applies to all suppliers; protection of all forests including those on peatland; High Carbon Stock (HCS) assessments to be implemented; adoption of international best practice for rights of indigenous peoples and local communities, as well as independent monitoring by NGOs.

The question, as far as the industry is concerned, is how that statement will translate into practice?

APP told TW that its tissue customers can "feel confident and secure that their products are sustainable, meet the highest standards, and do not come from natural forests". Greenpeace has said it is happy with the statement, before telling TW that "this is a first step along a journey to make it

## Factfile: Pindo Deli 2

Located: Karawang, Java
Established: 1997
Tissue machines: Andritz AG.
Type of Machine: Cresent former with two layer head box.
Types of Converting tissue machines:
**Roll :**
Perini Sincro7.6/0
Perini Industrial Line (Sincro 780 C )
Chan Lie (Start Stop)
Perini X-3
**Folded:**
Winkler + Dunnebier 616
Winkler + Dunnebier 619
Winkler + Dunnebier 624
Chen Rong
Hobema (14H, 14 MZ1 , 14 MZ2)
Chen rong M-Fold (Slitter & Log saw model)
**Packaging:**
Casmatic (Shrinkage System)
Casmatic (PW 30)
Senning (522 SE 70)
Chen rong
Goal Gold
Harro Hofliger (Harro)

## Factfile: Pindo Deli 3

Located: Perawang, Sumatra
Established: 2008
Tissue machines: A Celli Crescent Former, Gold Sun Crescent Former
Converting tissue machines:
**Sheet Cutter:**
Milltex Italy
**Roll:**
Chen Rong Taiwan – JRT/KT/HRT
Chen Rong Taiwan – SRT (auto wrap)
**Folded:**
Chen Rong Taiwan – Interfold (auto wrap)
Chen Rong Taiwan – M-Fold (auto wrap paper sleeve)
Bauso China - Interfold

**One of the converting units in Pindo Deli 2. The mill has 57 converting units for tissue rolls, folded tissue, towels and packaging. 80% of the Jumbo Rolls produced by the mills tissue machine is converted internally on site.**

real on the ground. There is no way back, now or ever, this is a serious announcement and APP should prove that this time it's real."

It is a major commitment. Will it be independently verified? According to APP, yes; HCS assessments will be undertaken by The Forest Trust (TFT) and will identify all forested areas, which APP said will "enable it to ensure that future plantation development does not take place in forests".

During this visit, Aniela Maria, the deputy director for stakeholder engagement of APP's sustainability and stakeholder engagement team, said the business has "stopped the conversion of natural forest in all of its supply chain. We have had a positive response from the market following this announcement. We've moved from the negative image usually labelled to us and we are now striving to be a leader on the sustainability initiatives within the pulp and paper industry." To ensure transparency, she added that an update report will be released monthly by The Forest Trust, while APP itself shares its own progress report quarterly, both of which are publicly accessible.

Currently, she says that the Pindo Deli 2 mill has the Indonesian Ecolabel Institute's (LEI) and PEFC Chain of Custody certifications, as well as the ISO 22000 for its tissue products. It has also achieved, along with APP's other major mills in Indonesia, the new mandatory timber legality certification by the Government of Indonesia, the Timber Legality Assurance System. This national certification system is being proposed for the FLEGT-VPA system, which, once approved, will classify certified Indonesian's timber products entering European market as low risk under the new European Union Timber Regulation.

"The timber based industry, including tissue, is subjected to many new regulations in various markets around the world, which basically aim to prevent products made from illegal woods to enter the market. There is the US Lacey Act, and now the new EU Timber Regulation is also put into effect this year. The Australian market will soon also implement its Illegal Logging Prohibition Bill. As our productions are focused on exports, we always strive to ensure that our production facilities meet all the requirements by these markets," she says. "For our products, including tissue, we implement a chain of custody system that makes it very easy for us to trace the source of the raw material that we use. When we implemented it the first time, the Chain of Custody certification by LEI and PEFC was a very challenging and stringent process for us, but it has now become our way of usual business."

As for FSC (APP was excluded of the standard in 2007), Maria adds that APP has always planned to get the certification. "Our new Forest Conservation Policy that we announced last February is based on the FSC standards and requirements. We are hopeful to be certified to FSC one day, and we are now exploring ways to attain the certification."


**APP owns several propriety brands targeted at various market level and segment. Amongst them are PASEO for the premium retail segment, LIVI for the premium AfH segment, and brands specifically for international market such as SARASA.**

Driving around Pindo Deli 2's 450 hectare site, the main thing that strikes you is the sheer scale of the plant. Including the outsourced workers, there are close to 10,000 people employed in the mill area. It mainly produces a variety of paper products with a supply of over 80,000 MT per month, but an increasing focus of the company is on tissue, and the mill now has one Andritz Cresent Former with two layer head box which was installed in 1997. "Tissue for us is seen as one of the areas in the global market with the most potential," Thiaga, head of customer relations of the tissue business, says. "So we are looking to grow it."

The tissue machine has a maximum operating speed of 2,000m/min and is 5.55m long, producing between 4,200 to 5,000 MT of toilet paper, facial, napkin and towel tissue per month. Roughly 20% of the jumbo rolls from the tissue machine are allocated to external customers, whereas the rest is for internal converting. Jumbo rolls and finished products are exported mainly to Asian markets, aside from significant proportion for domestic Indonesian market.

The converting units installed are capable of producing all the four basic categories of tissue, and are flexible when it comes to product variation. Currently the highest volume is from the industrial line of Perini. Since the Pindo 2 Tissue unit caters to a market worldwide, the supply and demand for the respective product tend to fluctuate based on market trend.

"Considering that we have been distributing to markets on a global level, the consumer perception and trend changes regularly," Thiaga says. "We have excelled in being able to adapt to the market transformations, which is the primary reason as to why we are able to sustain our products both in local and international markets."

"In the past few years, Indonesia has attracted investors from across the globe and is now portrayed as the epitome of growth in Asia. Primarily because of its high population and a consumer driven growth and consumption in domestic soil compared to any of its ASEAN neighbors. Our key focus is towards branding and consumer satisfaction to increase our market share to substantial levels."

APP's investment strategy is clear: larger and more cost-effective machines. In total, APP's Indonesian sites produce 0.5 million tonnes of tissue per year. From her office in Jakarta, Muljadi says: "In Indonesia, we are the number one market leader. Our market share is 60% if we combine both proprietary and private label brands. But what we're seeing is that most people believe tissue is a commodity product. In some places tissue usage is still very low. For instance, in Indonesia it is around 0.8 kilo per capita. This is very low, especially when you compare to the US where it's 24 kilos per capita and even in China where it's 5 kilos. If we want to enter this market further we need to educate the consumer about why they need the tissue product. Our challenge is to make unique and personalised products."

As for future investment, she says it will be heavy, and mostly organic: "That's our number one strategy. In Indonesia, we have the number one position. We're not number one in China, but we do have a significant market share in countries such as Singapore. People believe we have a low cost supply and that that gives us a competitive edge. We are continuing our R&D efforts and we will continuously launch better products."

With APP's fierce investment strategy coupled with its bold announcement on sustainability and commitment to transparency, there's no turning back for a company evolving rapidly and determined to create a new category of success.

# 'Virginising' tissue fibre furnish

## Tightening availability and increasing prices of 'white' recovered fibre are impacting the developments of the tissue fibre furnish while recovered fibre usage concentrates on brown grades. Here, **Pirkko Petäjä**, principal at Pöyry Management Consulting, explains how it is affecting the tissue industry.

Global recovered fibre consumption has historically clearly grown faster than virgin fibre usage. By 2010, recovered fibre represented 55% of the total raw material volume for paper, while virgin fibre pulps had a 41% share and non-wood pulps stood for 4%. The world is still counting on an increased supply of recycled fibre, but the massive volume growth in demand for brown recycled fibre has buried the story of white fibre supply challenges.

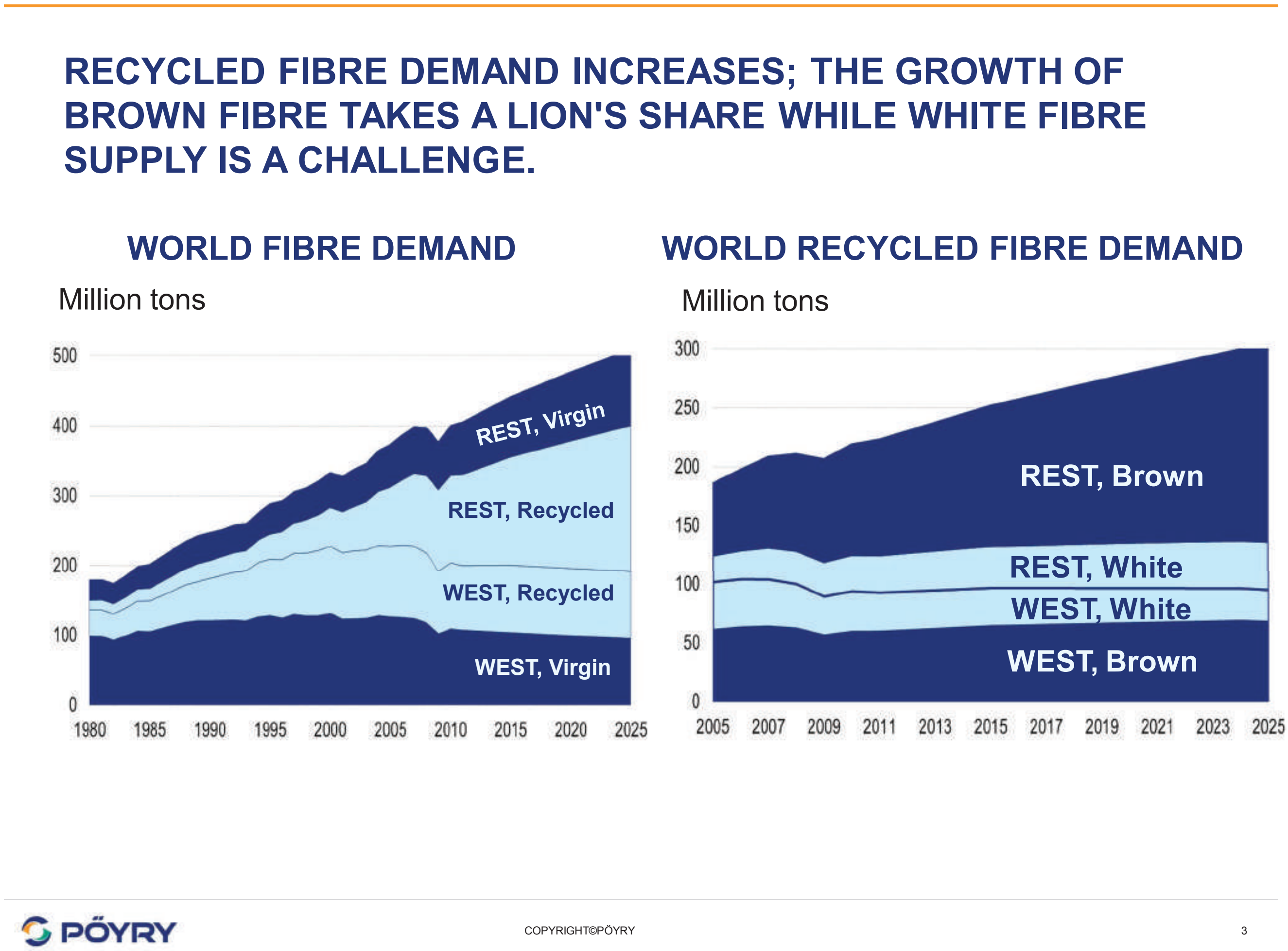
Recovered paper consumption and collection are expected to grow globally by almost 60 million tonnes until 2020. Most of the consumption growth will take place in China, where OCC (Old Corrugated Containers, 'brown' RCF) is used for packaging grades. HG/PS (High grades/Sorted Office Paper, 'white' RCF used in tissue) consumption is projected to grow 4.4 million tonnes. The increasing supply will be reached by growing consumption of woodfree papers in the developing regions and increasing collection rates in all regions.

### RECOVERED FIBRE AVAILABILITY WORSENS, ESPECIALLY FOR THE 'WHITE' GRADES

Collection rates are estimated to reach almost theoretical maximum limits by 2020 which likely will increase recovered paper prices because of higher collection costs. Theoretical maximum collection rate for total RCF is 80-81 % (for HG separately clearly lower than that for OCC and Old News and Mags), the world average for the total rate is currently approaching 60%.

The decline in graphic paper consumption in the industrialised world and slowing down of the growth in emerging economies will seriously limit the availability of RCF in ONP/OMG and High Grades. The impact is greatest in Europe, in the US and in the international trade of RCF.

Potentially printing and writing paper demand might decrease in developed regions even more than anticipated. Due to the fibre flow from printing and writing papers to tissue and packaging grades, the demand for ONP/OMG and HG RCF continues to increase tightening the balance significantly. There is very limited possibility to




increase RCF share in the 'white' grades.

### PRICES OF RECOVERED FIBRE SHOW AN UPWARD TREND EVEN IN REAL TERMS.

The rising collection costs are the main price driver, together with the tightening supply/demand balance. As the collection rate increases, the collection cost goes up – it can be exponentially (longer transportation distances, smaller volumes per lot, more advanced sorting, etc.).

For the users of recovered paper, reject disposal and other usage related costs are also rising which gradually makes virgin fibres relatively more attractive, even if the nominal price difference is still high for many pulp substitution grades.

Recovered paper quality is also deteriorating and expected to deteriorate further. Deteriorating RCF quality increases the cost for the user (lower yield, higher processing costs and lower quality end product).

***'Desired fibre properties determine the basic fibre furnishes and a tissue producer's main emphasis is on end product quality.'***

Tissue industry has lower paying capability of RCF than many other users. The tissue industry has lower paying capability than other end users and thus is foreseen to relatively increase the use of virgin fibres.

High quality RCF-based tissue products can only be made with highly bleached deinked pulp (DIP). The high bleaching requirements as well as the fact that the filler/coating contained in many graphic papers is to large extent rejected, lead to a low yield, at some 65-70%, in the deinking process. Due to the low yield, tissue producers' RCF paying capability is lower compared to the producers of some other paper grades where the filler (or coating) is not rejected. In addition, the raw materials required for the high brightness products are high and medium grades of RCF (e.g. sorted office paper), which have the highest prices and fastest deteriorating quality and availability among RCF grades.

Products/producers with best paying capability (white surface boards and printing and writing papers) will not see those big changes in furnishes while products with lower paying capability are expected to see furnish changes, from RCF to virgin based.

In tissue furnish, RCF is increasingly foreseen to be replaced by virgin pulp.

## WHO DEMANDS RECOVERED FIBRE?

Desired fibre properties determine the basic fibre furnishes and tissue producer's main emphasis is on end-product quality. This drives the raw material choice. Price, certification and other environmental issues are also important but still secondary.

Especially in selected markets the environmental argumentation and certification has become a requirement set to the tissue producers and in these regions the fibre choice is no longer purely an economic or quality question.

***'Environmental requests are much more driven by retailers, NGO's and institutional buyers than by the final consumers.'***

The stakeholders in the environmental front include tissue companies themselves, environmentalists/ non-governmental organisations (NGOs), retailer chains, governments, institutions and other public buyers as well as final consumers that can be corporates or individual buyers.

Environmental requests are much more driven by retailers, NGO's and institutional buyers than by the final consumers.

The existing respected environmental certificates and labels in tissue are often programmes which address multiple environmental attributes and provide a rather comprehensive assessment of the overall environmental impacts of the product.

Few labels require 100% RCF content but at least partial RCF content may be the requirement of some institutional, governmental and public buyers. This is especially impacting AfH furnish and is not expected to change. AfH furnish is not predicted to 'virginise', partially due to the demand but also as there are less quality requirements and economic pressure towards virgin furnish in the segment. RCF is still holding its position as the primary raw material for the lower quality, lower-priced tissue products, which are not economically viable to produce from virgin pulp. The yield of RCF based pulp (not necessarily deinked) used in the low brightness products is higher due to lower washing and bleaching requirements. In addition, these kinds of products mainly contain the cheaper RCF grades.

Also retailers may require RCF content for part of the products. There is also a debate of the willingness of consumers or the retailers to pay for the RCF content if they require it. Some tissue producers believe this is possible by 2020, others say that in the worsening economic situation this will not happen, in a better economic climate maybe. Several consumer surveys indicate, that though the majority of consumers claim that the raw materials influence their buying decision, only some 20% are willing to pay for 'eco friendliness'.

## WHICH IS THE MOST SUSTAINABLE FIBRE?

The growing spectrum of environmental labels that certify also virgin fibre-based products means that the ecological benefits of using certain sources of virgin fibre are being increasingly recognised.

It is not only the origin of fibre that determines the eco-friendliness of the tissue products, also sustainability aspects in the tissue process and in the mill need to be considered.

Especially water and energy consumption and energy supply concept are important sustainability issues. Fight against climate change should be seen as equally important as the fibre origin.

The specific water consumption of RCF based tissue manufacturing is significantly higher than that for virgin fibre-based tissue – the best technologies limit virgin tissue water consumption in extreme cases to only some 2-3 m3/tonne, while good standard is 4-5 m3/t; in the RCF based tissue the consumption is at its minimum double. Effluent quality is also more 'difficult' in the RCF based process. Sludge after RCF handling and de-inking is a clear environmental concern; it typically goes to landfill that in many places starts to be restricted. Also sludge incineration has been opposed due to environmental reasons. Specific energy consumption is typically higher for the RCF based process than virgin process.

The recent focus on non-wood fibre originates also from environmental concerns. The focus is entirely on the origin of fibre and the other environmental attributes are neglected. One cannot be convinced that for instance bamboo can be seen as a more sustainable fibre as there are many attributes which remain neglected.

## SUMMARY

While 'brown' recycled fibre consumption for board is typically still increasing, 'white' recovered fibre availability is significantly tightening and the price of the fibre is increasing due to increasing collecting costs.

Tissue has lower fibre paying capability for the 'white' RCF than many other end uses. Due to the tightening availability and increasing prices, especially tissue furnish is expected to 'virginise'.

RCF content in tissue is primarily requested by retailers, NGOs and institutional buyers and much less by final consumers.

Fibre origin is not the only factor that determines eco-friendliness; water footprint, carbon footprint and chemical toxicity are equally important.

Responsibly produced virgin pulp can be equally sustainable fibre choice than recovered fibre; especially in the fight against climate change the responsible forestry, renewable raw materials and energy sources can play a significant role.

***Pöyry Management Consulting*** *is the leading advisor to players within the global Paper, Pulp, Packaging and Hygiene sector*
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# With demand for hygiene on the increase, pulp pro how sugar cane waste re develop its Triple Green

Hygiene products form an integral part of our lives and are fast becoming a big growth segment for manufacturers. All over the world people are using these products for cleaning, sanitising and drying. Market competition is rife and the overall demand for hygiene products is on the increase, partly due to higher disposable incomes in developing countries, but also the increased awareness of bacterial transfers.

Pulp producer Sappi has responded to this demand and developed the Triple Green™ hygiene product range of tissue wadding. It is manufactured at Sappi's Stanger Mill, based in KwaZulu-Natal on an environmental platform with three pillars using alternative fibres:

- The primary source of pulp used in the production of paper products at Sappi Stanger Mill is sugar cane waste residue (also called bagasse) which are sourced from local suppliers;
- The bleaching process is elemental chlorine-free; and
- The wood fibre used in the production process is obtained from sustainable and internationally certified afforestation, using independently-audited chains of custody for incoming fibre.

**Production at the mill is based on an environmental platform with three pillars using alternative fibres**

Bagasse is the fibrous material remaining after raw sugar has been extracted from sugar cane. As such, it is not only an annually-renewable resource but, as a by-product of another production process, is also a recycled raw material. Sappi Stanger Mill is one of only a few mills that uses bagasse as it primary source of fibre. Some other advantages of using bagasse is that it is sourced from local suppliers, many of them previously-disadvantaged growers. This practice supports the development of entrepreneurial enterprise and contributes to the KwaZulu-Natal region's socio-economic growth and stability.

Local buying also eliminates the need for long-distance road transport, reducing wear and tear on the country's roads, fuel consumption and the emission of greenhouse gases from haulage trucks. The resulting cost savings also have a positive influence on pricing.

# e products forever oducer Sappi tells TW esidue has enabled it to TM hygiene range.

The term "elemental chlorine-free" (ECF) refers to the fact that chlorine dioxide (as opposed to chlorine gas or elemental chlorine) and hydrogen peroxide are used as bleaching agents. ECF is recognised by the Environmental Protection Agency in the US as best available technology.

ECF bleaching has the following benefits:

- Paper treated in this way is more easily recyclable;
- The use of the ECF process results in the strongest of paper fibres, ensuring that primary fibre sources are optimally utilised ; and
- The ECF process also provides the highest yield of any bleaching process, also serving to ensure optimal use of raw materials.

Wood fibre needs to be chipped and digested before it can be made into paper. As bagasse does not need to be chipped and is only digested for a short time, the use of bagasse in papermaking consumes less energy than traditional methods, which is very important given increasing world-wide concerns about energy sustainability and carbon footprint.

This tissue offering fulfils the need companies have in procuring products that reinforce their commitment to sustainability and the need to differentiate themselves from their competitors. The Triple Green™ tissue product has strong brand equity that makes it an attractive alternative to converters also seeking a differentiator. The Triple Green™ logo can be seen displayed on many a product packaging as proof of its value to end-users.

Sappi's tissue wadding is used widely by the hospitality, corporate, home, away from home and medical industries. The tissue wadding products for application in these industries include 2 ply toilet tissue, and one and two ply kitchen towels, hand towels, serviettes, hygienic wipes, medical wipes and industrial wipes used in dispensers. The products are white, strong, and absorbent and made from virgin fibre. Triple Green™ Tissue wadding products are made to the highest quality standards.

The Triple Green tissue:

- Conserves natural resources with the use of alternative fibre,
- Protects nature as it is biodegradable, acid-free and recyclable
- Promotes sustainability being FSC™ certified and locally produced in South Africa.

**Sappi's Stanger Mill based in KwaZulu-Natal**


# Soft options

## Södra Cell Värö has transformed itself into a tissue-focussed mill with pioneering environmental credentials. *A TW report*

**Careful selection in the woodyard is the first step at the pulp mill towards creating the ideal pulp for tissue**

With hindsight, would you have re-orientated a softwood pulp mill towards the tissue market some 10 years ago had you known that tissue producers in the near future would be scaling down their use of softwood fibre in favour of hardwood?

It is a question you could reasonably ask of Södra regarding its Värö mill. With the prospect of a declining printings and writings market, Södra entered the new millennium with a revised plan for its mill on Sweden's west coast. It would continue to produce predominantly the spruce thinnings-based *Black Z* pulp among other equally appropriate tissue pulps, but take the necessary production and market steps to increase the proportion of its output sold to tissue mills from 10-15% to around 70% - in tonnage terms a ten-fold rise from some 30,000 tpa to 300,000 tpa.

Like most major business decisions, success or failure owes something to luck and something to judgement.

### CANADA GOES EAST

On the luck side, one of the staple fibres for Södra's key tissue market in Europe, Canadian softwood kraft, was substantially withdrawn from the field from the mid-1990s with shipments switching to Asia. Europe's tissue makers had built their brands on the high-quality levels and reinforcement characteristics which the Canadian pulp imparted, and substitution needed careful thought. Södra's ***Black Z***, with its combination of high softness and tensile, was just what they needed, and as demand grew, Södra was able to oblige.

Södra has gradually tailored production at Värö to reflect the needs of tissue producers more closely.

And it is to its production strategy that Södra can attribute its survival in the context of increasing substitution of softwood fibre with hardwood


**Sodra Black: Black Z is Södra's premium tissue pulp, produced at Värö**

in the world of tissue making. Price differentials in market cycles of the recent past were enough to push tissue producers in the direction of hardwood. While the softwood premium has been largely ironed out, the die has been cast, and tissue production has been adapted to greater use of hardwood fibre. Tissue producers have not looked back, because they like the softness which hardwood fibre imparts. They are also encouraged by the prospect of increasing volumes of hardwood fibre from a series of pulp capacity investments in south America while softwood capacity remains virtually static.

## BETTER SOFTWOOD PULP NEEDED

This situation has worked in Södra's favour, however. As the ratio of softwood fibre in a typical tissue furnish decreases, the quality of that softwood fibre becomes proportionally more important. The tensile from softwood fibre on which tissue makers rely cannot be achieved by "just any old softwood" when used in relatively small quantities, particularly if softness is also required, as of course it is with tissue. Södra ***Black Z*** is just the fibre which tissue makers need.

So when it comes to ascribing credit, how much goes to the tree and how much to the process? As Värö process manager Knut Omholt says, "You cannot create gold from nothing; we are not alchemists," in reference to the fact that without the characteristics of the spruce thinnings on which Södra ***Black Z*** is based, a pulp which is so suitable for tissue makers would have eluded even the best of pulp makers. "But while you can destroy good material," he continues, "you cannot create a great product without a great process."

Pulp mills are unashamedly located according to the local wood and water resources. To transport logs beyond a certain distance is neither economically viable nor environmentally desirable. Värö's position in south Sweden (Södra


'Värö' is the first pulp mill in the world to operate without fossil fuels on a day-to-day basis.'

is the Swedish word for South), puts at its disposal forest resources which are very specific in nature. In the northern Nordic region, with a very short window of warm weather, fibre walls experience short, sharp periods of growth, which makes them thinner, yielding greater softness. By contrast in southern Europe, dominated by Radiata pine, the growing period is fairly constant throughout the year, which produces a thicker fibre wall that is not so great for softness.

In Värö's vicinity, the growth characteristics are between the two extremes, so to achieve the softness it requires, Södra harvests the younger wood from forest thinnings, which have thinner fibre walls and so produce softer tissue. It is a win-win situation for Södra and the forest, because at a certain growth stage of a plantation, the forest needs to be thinned out to allow it to thrive, but the resultant thinnings are unsuitable for use in construction. So almost as a by-product of good forest management, Värö can procure the ideal raw material to which it can add value.

In the period of Värö's evolution to a predominantly tissue pulp mill, its raw material base has remained largely unchanged but the mill now utilises the variations within the material to produce more differentiated pulps. The biggest forest-related change from the market's viewpoint is that Värö can now supply FSC-certified pulp to all those who demand it.

## THE PROCESS EVOLVES FOR TISSUE

This brings us to the process and its contribution to what Södra would argue is the ideal softwood pulp for tissue.

The story begins, appropriately, in the woodyard. Omholt explains: "Through wood segregation we use the raw material in a more organised way. The raw material which is best suited to tissue production is selected more deliberately than before."

Then following debarking, the chipping

process has been upgraded to provide a much more even chip size into the digester. If a mill has to deal with a mixture of large and small chips, the degree of digestion is more random. "Consistency is important for all papermakers," says Omholt, "but tissue customers have a greater need of it than most." The digestion process, through chip-size management and other proprietary improvements, has been optimised over the past decade to capture the potential of the raw material, in particular tensile.

"If as a tissue maker, you start with an inconsistent pulp," continues Omholt, "you have to make more adjustments to the process, such as the degree of refining, and this can affect runnability. It can also affect final product characteristics, although there is a certain amount of correction possible during the converting process, so on balance it is probably the efficiency of the tissue making process itself which is most sensitive to the consistency of pulp quality.

"Our target has been to minimise the post-pulping refining necessary for *Black Z* by maximising tensile within the process. The less refining that is necessary to boost tensile, the softer the tissue which can be produced with the pulp."

## GENTLE TCF

Södra pioneered totally chlorine-free (TCF) bleaching in the 1990s, and Väro's pulp output is 100% TCF. This could be viewed as a mixed blessing these days. While some customers still demand TCF, the fact that elemental chlorine-free (ECF) bleaching has become so well accepted for its environmental credentials means that TCF is less of an advantage in itself. Over the years, however, Värö has created a very gentle TCF bleaching process which has no detrimental effect on tensile. "We now see no difference between TCF and ECF in terms of tensile," says Omholt," so for those for whom TCF is not perceived as an advantage, it is certainly not a disadvantage either."

**The raw material for Södra Black Z arises as a result of good forestry management**

Recent investments at Väro include the addition of two more screen rooms in 2011, supplied by Andritz and GL&V, to improve dirt content. This was followed by a process control upgrade, designed and implemented in-house, to produce much more consistent brightness levels. It also has the benefit that it ensures Värö does not over-bleach the pulp. This is important as over-bleaching can affect strength and consistency.

Going further back in time, the last decade has seen a transformation of Värö's environmental profile, with a new recovery boiler, evaporation plant and causticising plant. The installation of a new lime kiln in 2014 will be the final step in a complete renewal of the recovery part of the process in just over a decade.

## THE ENVIRONMENTAL ADVANTAGE

With carbon footprint in mind, which is of increasing concern to professional and domestic tissue buyers, these investments have not only reduced Värö's energy consumption by up to 20%, but enabled it to become the first pulp mill in the world to operate without fossil fuels on a day-to-day basis.

It also means that Värö no longer needs to incinerate all bark to generate energy. Instead the mill dries surplus bark with excess process energy and sells it as biofuel. This still leaves sufficient excess energy from the pulping process to transform the sawdust from Södra's sawmill at Värö into pellets which will be sold as biofuel when the pellet plant is built this year. These pellets can then also be used to replace tall oil which is used to fire the lime kiln. While tall oil is itself a biofuel and a by-product of the pulping process, it is very versatile, and can be sold as a raw-material for production of bio-diesel, thus better-exploiting its properties than the lime kiln, which can operate well with the more basic sawdust pellets.

Värö also supplies excess energy from the mill in the form of district heating for the neighbourhood town of Varberg and electricity for the power grid.

Värö is a transformed pulp mill. In a decade it has switched focus to tissue, with its premium *Black Z* and other suitable tissue pulps, and effectively taken on the role of bio refinery over the same period. As such it is ideally placed to face the challenges of an evolving paper market and a world which needs sustainable industry.

# Tango Roll makes a point for point-to-point

## Futura's Tango line has been lauded as the latest breakthrough in high efficiency, value-adding technologies. It marked the debut of the latest JOI Technology; the first embosser to feature a steel-marrying roll instead of the industry standard rubber roll. Now, almost a year since its first installation, TW gets a progress report.

When Futura designed the Tango Roll using the patent-protected JOI embossing technology, it said it had developed something with the potential to revolutionise a vital aspect of tissue converting. With nearly a year's operation under its belt, Futura's R&D and customer relations director Giovacchino Giurlani says it's no longer theoretical.

The Tango Line was started up in the third quarter of last year at Argentina's Papelera San Andrés de Giles, where the company said it provides nested embossing solutions with the design flexibility and ease of operation at volumes nearer those associated with point-to-point embossing products.

Papelera San Andrés de Giles uses the line to produce kitchen towel and toilet tissue; point-to-point configuration is used for toilet tissue products, and the JOI embosser, can achieve the switch from nested to point-to-point in as little as one hour, compared with a whole shift on conventional lines. For such applications, a "random" point-to-point solution has been developed, which the company says allows more creative decoration and greater softness than normal point-to-point allows due to the reduced glue requirement.

**"The JOI 013 has undoubtedly changed the rules for embossing." Futura's R&D and customer relations director Giovacchino Giurlani**

Giurlani says that in different operations around the world, the JOI technology and the Tango Roll have demonstrated the capability to produce the highest quality towel without inner ply deterioration or product contamination. Most importantly, this is achieved with a finished roll diameter result that is "as good as that of a Point to Point unit without the complication, the pattern limitation or any negative impact on paper and product characteristics".

As with most technologies, Giurlani says it's fairly straightforward to map the evolution of embossing. In the 1980s, kitchen towel was subjected to a point-to-point process, while toilet tissue was produced with a simple embossing technique. The 1990s saw kitchen towel move to the new nested technology, while toilet tissue graduated to décor embossing. The Noughties witnessed the race for flexibility, and the JOI embosser was launched in 2009.

"We reached a point when we asked ourselves whether it was still possible to improve the nested lamination process using the conventional rubber marrying roll," he adds. "For us, the JOI 013 represents a true evolution in embossing technology offering the possibility of using the Tango steel marrying roll."

**The self-guarded lamination unit on the JOI**

## WHY A STEEL MARRYING ROLL?

What is so problematical with the rubber marrying roll? "It's a question of what is optimal," Giurlani says. "Steel is optimal. The theoretical advantages of a steel marrying roll have tempted the converting industry for a long time because with a steel roll, superior nip control means there is no difference between the embossed surfaces of the tissue. Bulk and quality are absolutely preserved, roll cleaning is easy with the use of a doctor blade and the re-embossing effect is eliminated."

He adds that the JOI roll operates a steel-marrying roll without incurring the usual problems as it does not deflect, and this is the key to its success and its revolutionary potential. "What made non-deflection impossible to achieve was the roll design and the natural deflection of its material, this resulted in increased pressure on the edge of the web and reduced pressure in the middle. We have overcome this by transferring the deflection from the shell to the shaft where it does not affect tissue characteristics. After rigorous testing in production, we have won an important technical challenge."

JOI also features roll temperature control technology and the Tango roll is driven. Through technical innovation, the barriers to steel marrying rolls have been overcome and converters can enjoy reduced cleaning, the elimination of final product contamination, improved inner-ply pattern definition with bulk retention, and reduced maintenance. Giurlani says this can be done safety because self-guarded lamination unit which allows operators to access the laminating area while the machine is running.

## NESTED AND POINT-TO-POINT BENEFITS

There are implications for converters in terms of specific embossing techniques; nested embossing has always been associated with more design flexibility, but has been held back because it cannot offer the product volume performance of a point-to-point. "Today, runnability, bulk and reduced maintenance brought by the Tango steel marrying roll has suddenly put nested embossing in a new category," Giurlani says. "Kitchen towel manufacturers can use great embossing patterns without sacrificing efficiency, paper characteristics and finished rolls diameter. The potential to add value to kitchen towel will transform the market."

He says that the JOI 013 represents a landmark also in random point-to-point embossing. Converters can achieve far more imaginative decoration than is usually associated with normal point-to-point embossing technology. Giurlani adds: "This means that for toilet paper production, the lack of softness associated with point-to-point is limited because of the reduction of gluing points. Converters can now emboss the outer ply without compromising softness and, in short, toilet paper producers can achieve a softer roll which looks better."

***'What made non-deflection impossible to achieve was the roll design and the natural deflection of its material, this resulted in increased pressure on the edge of the web and reduced pressure in the middle.'***

He says that JOI 013 has undoubtedly changed the rules for embossing. "We never stand still and we consider all technology to be a work in progress. We are determined to make the line even more accessible, safer and easy to operate. The big challenge today in converting is the logistics around the line and its layout efficiency. This is an important focus for us in the near future."

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TISSUE WORLD

By SCA's automation engineer **Magnus Sultan** and ABB's key account manager **Hans Stenberg**



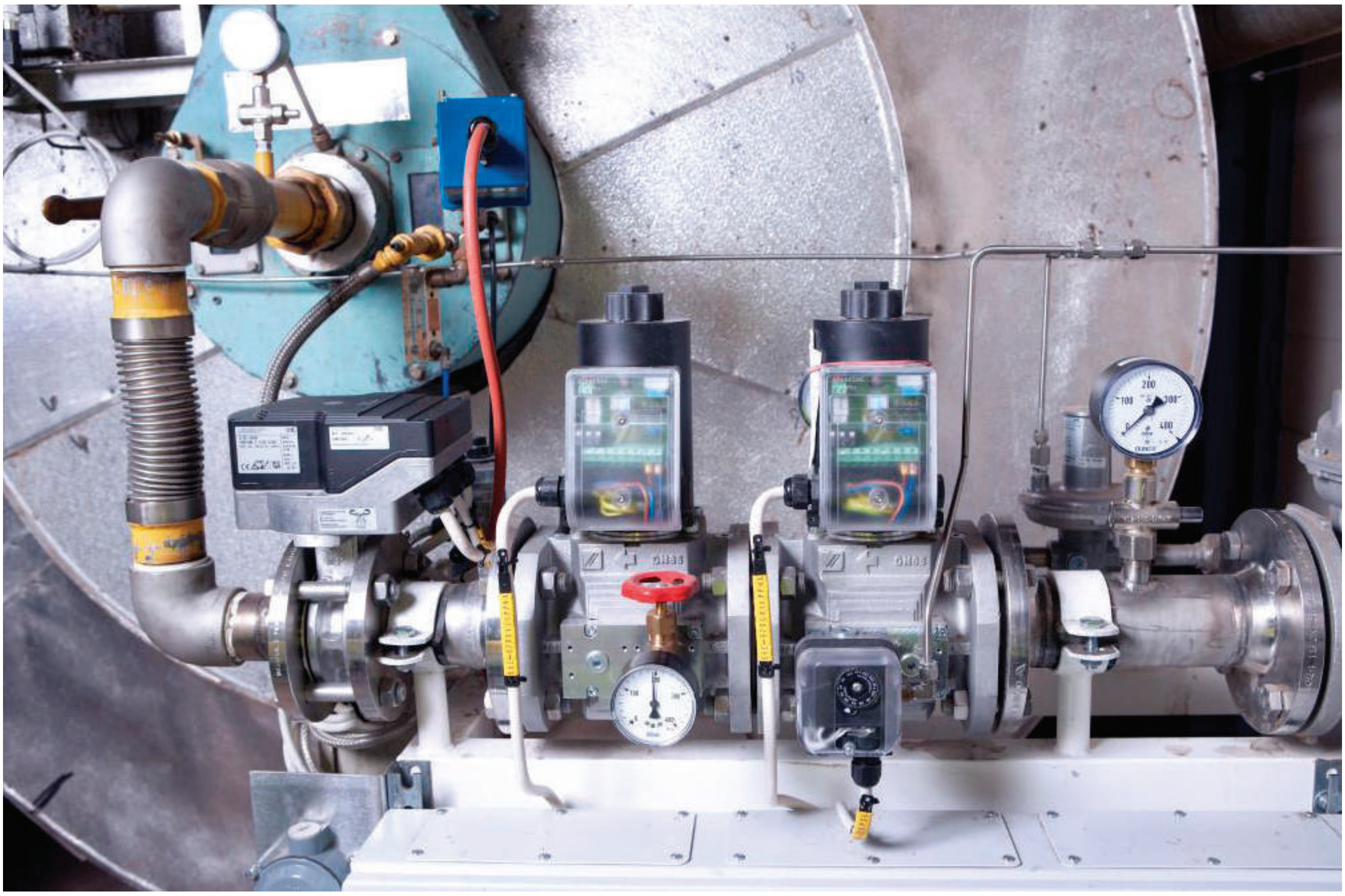
# Better monitoring – fewer stoppages

## When SCA's Edet Bruk mill invested in a new burner management system from ABB, the difference was immediate. Two years later, the company tells TW what a difference it has made

SCA's plant in Lilla Edet, north of Gothenburg, Sweden, has three big paper machines producing tissue paper that eventually becomes household or toilet paper. The manufacturing process involves a headbox pumping a 99%+ pulp-to-water suspension into the machine. The suspension is spread as evenly as possible over the revolving wire as the water is removed and the pulp then goes through a press section to remove more of the water by mechanical means. It is then moved to the drying section or dryer at the end of the process.

On one side of the machine's big Yankee cylinder (drying cylinder), steam from a boiler is used to dry the tissue paper. On the other side, the hood is filled with hot air. For environmental and safety reasons, two of the paper machines now use natural gas.

To help ensure that the monitoring of this process became more effective, in 2011 Edet Bruk replaced the "black box" that monitored the burners with a new modern burner management



**The ADT Dryer on the manufacturer's shop floor**

system from ABB. The "black box" used to tell the operators only that the dryer was working or not, while the new burner management system responds rapidly with information on why a stoppage has occurred.

ABB developed the function together with Autopro, which sells the software, and which is specially made to integrate the information into ABB's 800xA-system for full control of the firing process for combustion phases. This has not been possible before and it is a new function that gives the mills safer production. The burner control is useful in, for example, drying machines and in the lime kiln.

Magnus Sultan, automation engineer at Edet Bruk, says: "We have been talking about this kind of solution for many years. For us, it's about meeting the safety requirements of the authorities and also being able to see what is happening during the process."

For the paper mill to be able to manage all customer deliveries, production has to be kept running every day of the year, with the machines running at full capacity. Sultan added: "Whatever the reason for the machine stopping, we now get a plain text message indicating what is wrong and we can deal with the fault immediately. The operator is alerted by an alarm, and if they cannot deal with the problem on their own, all they need to do is call the maintenance personnel."

Previously, ABB did not have a burner monitoring application similar to the new system to offer its customers. The system delivered to the Edet Bruk paper mill has been granted plant approval by DGC (Danish Gas Technology Centre), the Danish certification body. Moreover, by using the documentation that has been produced, ABB is counting on being able to obtain similar approvals for future projects of this kind. "It will mean we can compete on cost with the license costs for the other approved systems already on the market," says Hans Stenberg, ABB's account manager.

There are competitors out there that have ready-made solutions that have already been approved.

But in spite of that, Edet Bruk opted to have ABB and Autopro develop a version of their own. "Process industries often involve large complex systems where the various units have to be able to 'talk' to each other. This is made easier if we opt for solutions from the same 'family', and in this part of the plant we do have a lot of equipment from ABB," Sultan added.

During the first months of operation, Edet Bruk's investment lived up to expectations. "Natural gas is cleaner than LPG and this means there have been fewer stoppages. And where there have still been stoppages, the operator knows the reason why. But the big benefit for us is that we do not need to devote as many engineer hours to solving problems in the event of a production stoppage."

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