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# TWM

TISSUE WORLD MAGAZINE

## VIETNAM

The Socialist Republic takes another big step towards global trade

TWM visits Corelex, Saigon Paper and Song Duong  
in COUNTRY REPORT

## PLUS

MARKETISSUES: AfH steers US tissue market into a new dynamic phase

## SPECIAL FEATURE

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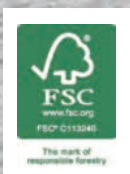
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Saigon Paper Corporation founder and chief executive Vi Tien Cao plans to respond to consumer demand and double capacity in the next five years. TWM meets him in Saigon, Vietnam

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# The Socialist Republic of Vietnam joins the world market – official

**T**here have been calls recently for the inclusion of Vietnam among the MINT economies ... the next major set of emerging nations comprised of Mexico, Indonesia, Nigeria and Turkey. V, unfortunately, is hard to fit into that particular acronym.

The Socialist Republic is on the up. If building work, every visitor's quick guide to the state-of-the-nation, is an accurate indication then it is thriving. In the major cities the din of drills and pile drivers is non-stop.

Better resourced statistical analysis suggests relatively low levels of unemployment, poverty rates and income inequality. There is growth, a drift from rural to urban living, and a middle class getting bigger.

Vietnam opened up to the rest of the world 30 years ago. It has been in the World Trade Organisation for 10 years. Now it has signed the Trans-Pacific Partnership (TPP), the colossal trade agreement between 12 nations including the US at one end of the demographic scale, and Brunei at the other. Tariffs and trade barriers have been swept away in the interests of free trade.

The seed bed for growth is being well tended. Our Country Report provides a deeper insight into the various new challenges and responses as the sector looks to reap what its sows.

Nguyen Van Quan at Song Duong, on the verge of privatisation, explains the company's major realignment towards the domestic market prompted by consumers developing a taste for better quality tissue.

For Vu Ngoc Bao, vice chairman and secretary general of Vietnam's Pulp & Paper Association, a still weak economy needs the stimulus of investment in skills and processing for the country to add value to products generated from its impressive natural resources. TPP is a big step in that direction.

JP CORELEX VIETNAM's Masahiko Nagata is coming to terms with the differences between Japan's and Vietnam's tissue industries and cultural habits: his home nation consumers demanding quality products, and Vietnam a developing economy in which until fairly recently a large percentage of the population was still to come across tissue for the first time.

It makes for a fascinating prospectus.



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# US tissue market: dynamic phase following recent slow growth

*With America's tissue market geared up for Tissue World New Orleans in March 2016, RISI's Esko Uutela talks growth and demand trends in the world's largest tissue market*

This year has been characterised by surprisingly strong demand growth in US tissue consumption, particularly in the Away-from-Home sector (AfH). In the first nine months, total tissue consumption showed demand growth of 2.8% from the same period in 2014. Converted product shipments showed somewhat less growth – 2.0% as a total compared to 2.8% in AfH shipments – but more than 10% growth in converted product imports.

A decline in exports also contributed to the growth in total tissue consumption. There are no exact statistics dividing imports between the consumer and AfH sectors, but information from the marketplace suggests that more than half of converted tissue imports are AfH products.

Therefore, it can be concluded that tissue consumption in the AfH sector grew by around 3.5-4.0% in January-September 2015. The last three months will decide where total growth will be for the year as a whole, but it is likely that total tissue consumption (At-Home and AfH combined) will record growth of somewhere between 2.0% and 2.5%, if not even more.

One may ask why after the slower growth of the past couple of years (0.9% in 2013 and 1.4% in 2014), this year will most likely show a jump in growth rates to those that were typical 10-15 years ago but haven't been seen since the 2009 recession.

The boom in the AfH sector seems to be the main driver, but why is this happening? There are several reasons, with the main one being that people are simply moving more than before. One factor is the major decline in

gasoline prices: July 2015 prices were 43% lower for regular and 30% lower for premium compared to July 2014.

This has boosted traveling, eating out and other AfH activities. Based on recent statistics, the HoReCa sector is booming: hotel occupancy rates have continued to move upward more than forecast and restaurant sales have grown further. Unemployment has continued to decrease (by 1.5 million over the year) and new employment generation has shown a positive trend, meaning more people at work in offices, factories, service industries, etc., which has a direct effect on AfH tissue demand.

Increased converted tissue product imports have been more for the AfH than the AH sector, also contributing to the boom. Finally, statistically 2015 and 2014 half years are not 100% comparable due to climatic factors (i.e. the harsh 2013/2014 winter).

The positive demand-driven trend in the US tissue sector has encouraged



Esko Uutela

Principal,  
Tissue, RISI

tissue companies to expand. The most important recent movement came on 13 October it was announced that SCA will acquire Wausau Paper for total consideration of US\$513 million in cash.

The boards of directors of both companies have unanimously approved a definitive merger agreement. The completion of the transaction is subject to Wausau Paper shareholder and regulatory approvals, but is expected to take place.

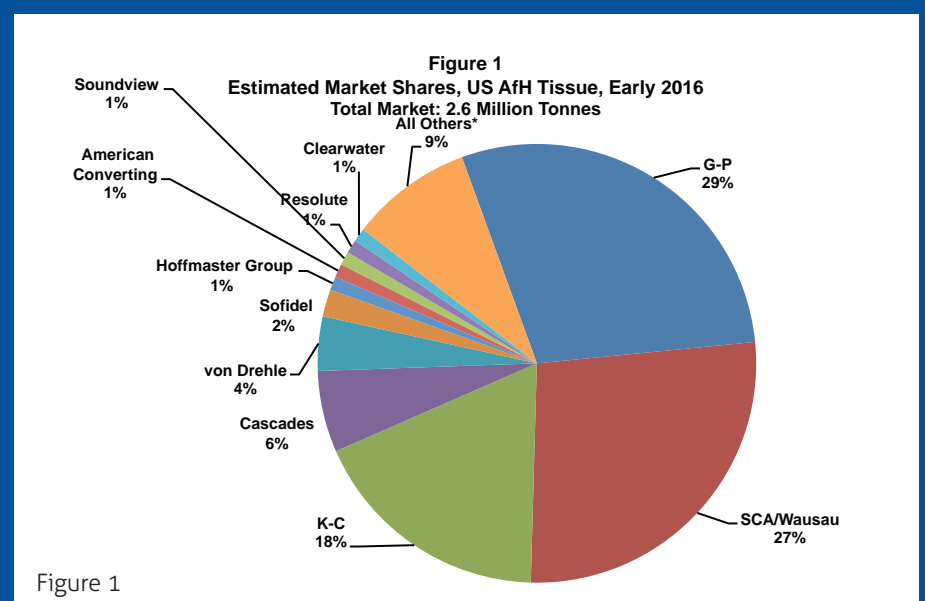


Figure 1

Recently the companies announced early termination of the waiting period required under the US Hart-Scott-Rodino Antitrust Improvements Act of 1976, so it looks like there will not be any obligations from the competition authorities.

The second announcement came from the Italian Sofidel Group with its acquisition of Green Bay Converting's converting plants in Wisconsin and Mississippi, adding about 65,000 short tonnes of both AfH and private label converting capacity to Sofidel's current (ex-Cellynne) North American assets.

Sofidel also announced its commitment to invest more than US\$300 million over three years (2015-2017) in the USA, including also a greenfield plant with papermaking to be located at Circleville, Ohio. This is a bold expansion move from the family-owned company, and will change the competitive picture among US tissue suppliers, especially in the private label segment.

*Based on recent statistics, the HoReCa sector is booming: hotel occupancy rates have continued to move upward more than forecast and restaurant sales have grown further. Unemployment has continued to decrease (by 1.5 million over the year) and new employment generation has shown a positive trend, meaning more people at work in offices, factories, service industries, etc., which has a direct effect on AfH tissue demand.*

Most recently, Resolute Forest Products announced the acquisition of Atlas Paper Holdings, a manufacturer of AH and AfH tissue products, including recycled and virgin paper grades, with a total capacity of 65,000 short tonnes. Earlier the company had revealed its investment in a new tissue PM at its Calhoun, Tennessee, mill.

Through the acquisition of Atlas, Resolute will secure an immediate position in the North American consumer tissue market, capturing synergies by integrating forward its US market pulp assets and giving the company the immediate tissue industry experience needed for the preparation of the Calhoun tissue project start-up in early 2017.

These competitive moves will change the relative competitive positions in the US tissue industry, particularly in the AfH sector. Assuming the deal between SCA and Wausau will be accepted without issue by Wausau shareholders and the competition authorities, as it looks now, SCA would pro forma increase its market share in the US AfH tissue business from its current 20% to 27% after the completion of the Wausau Paper deal (Figure 1).

The deals currently in the making would also put Sofidel and Resolute on the list of the top ten players.

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## AMERICA

### Resolute in "step-change acquisition" of Atlas Paper

Resolute Forest Products has expanded its At-Home and AfH tissue product offering after it acquired Florida-based Atlas Paper Holdings.

Atlas Paper manufactures branded and private label tissue products offering recycled and virgin paper products for economy, value and premium grades.

The 360-staffed company operates three tissue machines with an annual production capacity of 65,000 short tonnes, 14 converting lines in Hialeah (Miami) and Sanford (Orlando) and a paper recycling facility in Tampa.

Resolute Forest Products president and chief executive Richard Garneau said: "This is a step-change acquisition that provides us with an immediate position in the multi-billion-dollar North American consumer tissue market.

"We're following through on our strategy toward the Resolute of the future with an acquisition that capitalises on our unique ability to capture synergies

by integrating forward our US market pulp assets.

"This acquisition also gives us immediate tissue industry experience as we work toward bringing our Calhoun tissue project online by early 2017."

In June, the company announced it will build a state-of-the-art tissue and converting facilities in Calhoun that will produce approximately 60,000 metric tonnes per year of At-Home, premium bath tissue and towel focused on the private label market.

Garneau added that by integrating the existing US pulp assets to produce high-quality products, it will "compete in that market as one of only a few integrated producers, using the latest technology".

He said: "With today's announcement, we enter the tissue market right away and we do so by way of an acquisition that is synergistic and also integrative."

Atlas Paper Holdings president and chief executive Jim Brown said: "We are excited about becoming part of a larger, diversified company that views the tissue market as a cornerstone of its future.

"This is a win-win: For Atlas Paper, we will benefit from pulp supply efficiencies and we will offer a wider range of products to

our customers once the Calhoun tissue project is up and running.

"For Resolute, my team can bring the market knowledge and expertise that will help us all meet our common business objectives."

The purchase price in the transaction was \$156m, including working capital.

Resolute expects to maintain Atlas Paper's current structure and said "most employees, including management, will remain with the organisation".

Resolute Forest Products is a global leader in the forest products industry and its products also include newsprint, specialty papers, market pulp and wood products.

The company owns or operates some 40 pulp and paper mills and wood products facilities in the United States, Canada and South Korea and power generation assets in Canada.

### Sofidel continues drive in America with GBC purchase

Italian tissue giant Sofidel has further strengthened its position in the American tissue market after



GBC was founded in 1999 and carries out converting activities for the North America market's AfH and Consumer segments.



announcing the acquisition of Green Bay Converting (GBC).

With its subsidiary Sofidel America, the purchase includes a converting plant and corresponding business in Green Bay, a new state-of-the-art converting building in Hattiesburg, Mississippi, a greenfield investment in Ohio and the opening of a new head office in Philadelphia.

Independent converting company GBC was founded in 1999 and the 300-staffed company carries out converting activities for the North America market's Away-from-Home and Consumer segments.

As a whole, Sofidel has committed to investing more than \$300m over three years in the USA.

Sofidel Group chief executive Luigi Lazzareschi said: "The US market is a key market for our group because it is the first in the world in terms of per capita consumption in the tissue sector.

"Today, the Sofidel Group has operations in seven states, and with the recent investments we are creating the necessary conditions to further increase our service levels and enhance the added value that we offer our customers."

The Sofidel Group is a global leader in paper production for sanitary and household use.

## SCA to acquire Wausau Paper

SCA is to boost its presence in the north American Away-from-Home (AfH) tissue market with the acquisition of Wausau Paper for US\$513m.

The move enhances the tissue giant's AfH premium tissue portfolio and extends its North American footprint and production capacity.

Wausau Paper is one of the largest AfH tissue companies in North America; it has 900 staff and manufactures and markets AfH towel and tissue products along with soap and dispensing systems through its Artisan™, DublNature®, DublSoft® and EcoSoft® brands.

Its towels and tissue are manufactured entirely from recycled paper.

Magnus Groth, SCA president and chief executive, said: "SCA is the world leading supplier of AfH tissue with the global brand Tork®.

"The acquisition of Wausau Paper is an excellent strategic fit and strengthens our presence in North America.

"The Wausau Paper product portfolio complements SCA's offerings in North America and gives us access to premium tissue in that region. We expect the acquisition to generate benefits for SCA and our customers."

Michael C. Burandt, chairman and chief



*"The US market is a key market for our group because it is the first in the world in terms of per capita consumption in the tissue sector."*

Sofidel Group chief executive  
Luigi Lazzareschi

executive of Wausau Paper, added: "Our board has undertaken a thorough process to explore all of Wausau Paper's options and has determined SCA's offer creates substantial value and is in the best interests of the company and its shareholders."

Wausau Paper's reported sales for the first half year 2015 amounted to USD 175 million and EBITDA of USD 32 million.

Don Lewis, SCA America's president, said: "This acquisition will benefit customers by providing access to the superior sales, service, innovation and logistics that the combined business can provide.

"It will expand SCA's premium tissue and washroom assortment and give Wausau Paper customers the ability to purchase products from SCA's industry-leading food service offerings – in essence offering customers a 'one-stop shop' for all professional hygiene needs."

The completion of the transaction is subject to Wausau Paper shareholder and regulatory approvals.

The Wausau Paper board will recommend that its shareholders vote in favour of the acquisition by SCA. Closing is expected to take place during the first quarter of 2016.

***"The acquisition of Wausau Paper is an excellent strategic fit and strengthens our presence in North America. The Wausau Paper product portfolio complements SCA's offerings in North America and gives us access to premium tissue in that region."***

SCA president and chief executive  
Magnus Groth

## Resolute to boost tissue capacity with Futura install

Resolute Forest Products has invested in the new Futura Andromeda Concept converting technology.

It will be installed at the company's plant in Calhoun, Tennessee, and will be delivered to coincide with the expected start-up of tissue production in the first quarter of 2017.

Andromeda is a new converting technology that was demonstrated for the first time in its complete form at It's Tissue in June.

In 2015, Resolute announced its launch into the North American tissue market in 2017 with a Valmet-supplied Advantage NTT machine.

The Advantage NTT makes conventional and premium-quality papers with virgin pulp or recovered paper furnish.

According to Resolute, the move into the tissue market represents an important

step forward in its growth strategy, and the company will continue to evaluate opportunities to expand its presence in the tissue market.

Futura North America chief executive Christian Viviers said: "Resolute is showing true vision by diversifying into tissue.

"The company is one of a number of leading North American companies which have built Andromeda into their growth plans."

## BRAZIL

### Suzano installs two 60,000tpy tissue PMs

Brazil's Suzano has announced a Real425 million investment in two tissue paper machines, each with capacity to produce 60,000tpy.

One PM will be installed at its Mucuri

plant and the other one at the Imperatriz unit – both will produce jumbo rolls to be supplied to toilet paper converters in the northeast region of Brazil. Suzano CEO Walter Schalka said: "We want to sell jumbo rolls to national and international clients that want to operate in northeast Brazil, then they will be able to sell toilet paper wherever they want.

"This way, we'll avoid the migration of jumbo rolls from southeast to northeast Brazil, which has a high cost."

The executive added that Suzano has also obtained permit to convert the paper produced at its new tissue machines, but it doesn't have plans to do it in the short term.

The company plans to start up the Imperatriz tissue PM at the end of the third quarter of 2017 and the Mucuri PM at the fourth quarter of 2017.

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



New converting technology Andromeda was demonstrated for the first time at FuturaLab



## CHILE

### CMPC and SCA allegedly colluded to control Chilean tissue market

Chilean forestry company CMPC and a subsidiary of SCA are guilty of price-fixing in Chile, according to Chilean prosecutor Fiscalía Nacional Económica (FNE).

On 28 October, the FNE presented an injunction against the two companies that was accepted by the antitrust court. At the time of going to print, the FNE claimed that subsidiary company CMPC Tissue acted jointly with PISA (bought by SCA in 2012 and now known as SCA Chile) to control market prices, which affected sales of wholesale toilet paper, paper towels, napkins and facial tissues. Its brands in these segments are CMPC's Comfort, Elite, Nova, Noble and Orchid products and SCA's Favorita and Magiklin, as well as private label products.

The companies accused represent almost 90% of the Chilean tissue paper market and combined sales came to US\$400m annually. The collusion took place over at least ten years.

The FNE said: "This is one of the largest cases of collusion detected in the country, according to the prosecution.

"Its gravity lies both in its extension in time and in the massive market that affected and almost no replacement of these products."

During the course of the investigation which officially began in December last year, both companies applied for leniency and provided background to the issue. Both requests were accepted.

At the same time, the FNE said prosecutors found a series of acts designed to conceal the cartel by the accused companies.

Empresas CMPC said it self-reported to the authorities after conducting an internal investigation that revealed that over a period of time, concluding in December 2011, contacts and coordinated arrangements were "carried out between executives of its tissue division and their competitors".

In a statement it said: "We self-reported upon discovering this behaviour which violates all of our corporate policies and principles. After a preliminary probe, Empresas CMPC's board of directors immediately notified the relevant authorities, instructed an extensive in-depth investigation, and adopted measures to secure that these types of behaviours will not be repeated.

#### Chile price cartel key facts

*The two companies' combined sales were US\$400m annually. Represented almost 90% of the Chilean tissue paper market. Collusion took place over at least ten year.*

*FNE found a series of acts designed to conceal the cartel.*

*Empresas CMPC: "The actions by these executives not only violate the law but also profoundly oppose how we act as entrepreneurs, our corporate policies and our organisational culture."*

*SCA: "The investigation pertains to the period prior to 2011 when the business was operated by the previous owner of PISA. SCA does not expect the ongoing investigation to have any material financial effect."*

"The actions carried out by these executives not only violate the law but also profoundly oppose how we act as entrepreneurs, our corporate policies and our organisational culture."

Empresas CMPC said its board of directors instructed a thorough internal investigation. It also voluntarily reported conducts to the FNE and disclosed all information; requested the resignation of the tissue division's chief executive and other senior executives, and revise its tissue divisions commercial policies. In a statement SCA said: "SCA conducts operations in more than a hundred countries and in many instances holds leading market positions.

"It is natural that SCA, as with other major international companies in various contexts and for various reasons, is investigated by organisations including different competition authorities.

"As announced in May, a competition authority investigation into SCA is in progress in Chile.

"SCA is cooperating with the authorities and providing all information requested. The investigation pertains to the period prior to 2011 when the business was operated by the previous owner of PISA. SCA does not expect the ongoing investigation to have any material financial effect."

SCA declined to comment further.

Elsewhere, CMPC posted EBITDA of \$337m in 3Q15, up 34% y-o-y.

The growth for the third quarter of the year was driven by an increase in all business areas, except from the paper division which remained stable.

The company traded 707,700 tonnes of market pulp in the period, up 40% over the previous quarter and 28% higher year-over-year. Of this total, 160,674 tonnes of bleached eucalyptus kraft (BEK) pulp were produced at CMPC's new Guaíba II line, which kicked off in

May 2015 with capacity to produce 1.3 million tonnes/yr of BEK.

In the third quarter, CMPC's tissue sales accounted for 161,400 tonnes, up 4% year-over-year.

In August, 2015 CMPC's board approved an \$139m investment in a new tissue plant in Cañete, Peru, which will install a converting line and a 54,000tpy tissue paper machine. The project is expected to be completed by the end of 2018.

The company hired Gonzalo Darraidou to head its CMPC tissue business as of 1 December 2015.

## FRANCE

### Wepa starts up tissue line in France

The Wepa Group has started up a Toscotec-supplied tissue line in Lille, France.

The 2.8m-wide machine came on-stream after the commissioning period and is now producing high quality tissue products.

It has a maximum drying capacity of 120tpd, a capacity of 35,000tpy and is already running at the maximum operating speed of 2,000mpm.

It includes an AHEAD-2.0 crescent former tissue machine with TT Headbox-MLT double-layer, a Steel Yankee Dryer (TT SYD-15FT), Milltech hood, steam and condensate and dust removal system.

Wepa president Martin Krengel said: "All the start-up phases were performed very well and the machine has achieved excellent performance with high quality tissue at 2,000mpm just a month after the take-over.

"Our readiness to invest in state-of-the-art machinery, choosing the right partner, makes our sustained orientation to the future a success."



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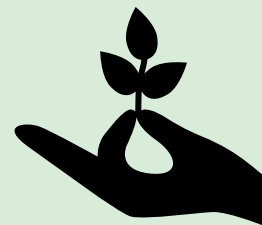
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### KEYNOTE ADDRESS:

#### **New Directions at which Companies are Looking at Sustainability Across their Operations**

*Don Lewis, President, SCA AfH Professional Hygiene, Europe & North America, USA*

To register or to check out the full conference programme, visit  
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An initiative organised in collaboration with the Tissue World magazine to celebrate and recognize years of tissue paper production and innovation by mills across North, Central and South America.

If you have an innovative tissue marketing campaign or outstanding sustainability initiatives, don't miss the opportunity to tell the industry about it! Winners will be announced at the Tissue World New Orleans Gala Dinner on March 14.

The entry submission deadline is February 20, 2016. Submit your entries now at [www.tissueworld.com/NewOrleans](http://www.tissueworld.com/NewOrleans) or email [info@tissueworld.com](mailto:info@tissueworld.com) for more details.

Portfolio



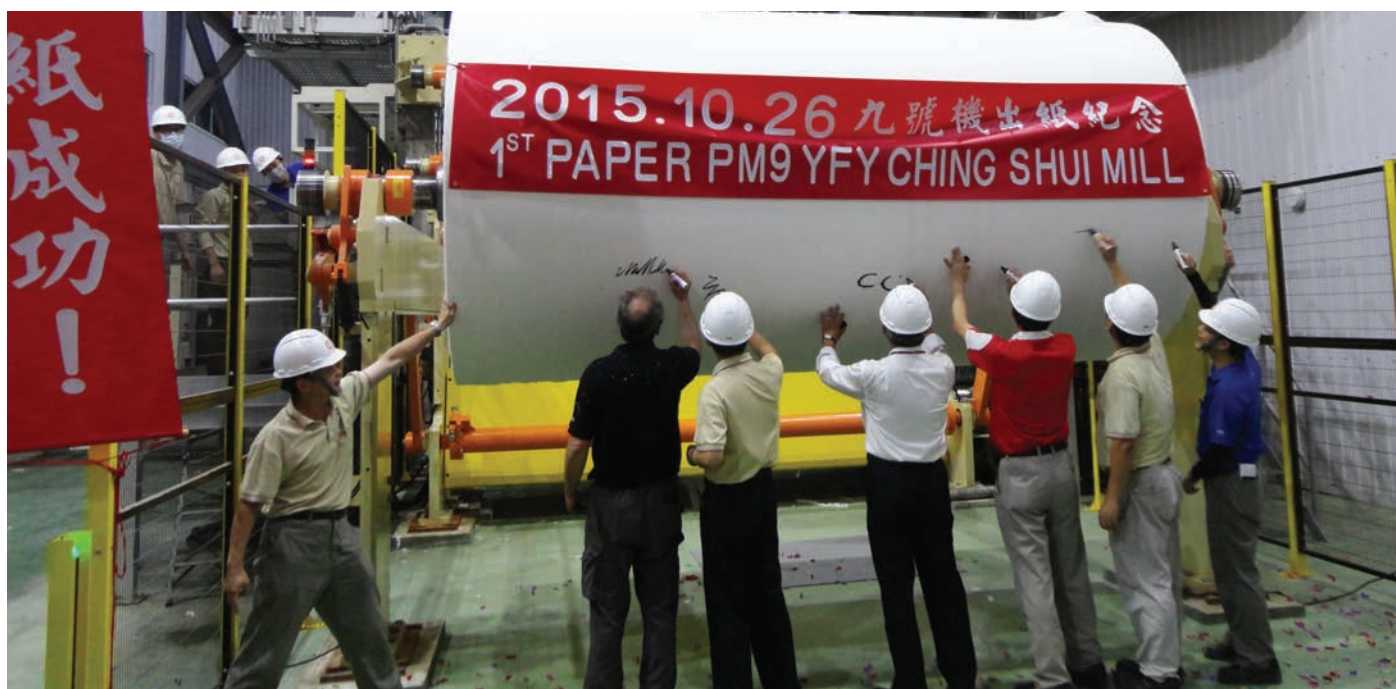
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Yuen Foong Yu Taiwan's investment will increase production capacity by 40,000tpy

## CHINA

### Yuen Foong Yu Taiwan starts up PM

Yuen Foong Yu (YFY) Taiwan has started up its first AHEAD-1.5m tissue machine at its plant in Chingshui.

Supplied by Toscotec, the machine has started up at Yuen Foong Yu's Chingshui mill in Taiwan.

The scope of supply included one AHEAD-1.5m machine, installing Toscotec's second generation Steel Yankee Dryer TT SYD-18FT, a 1,425mm diameter suction press roll and steam-heated hoods, as well as the stock preparation system.

The machine has a working speed of 1,65m/min and it will increase the mill's production capacity by 40,000tpy.

YFY deputy general manager Ming Fa Tang said: "We look forward to seeing the outstanding performances and energy saving results that we expect from Toscotec's technological solution."

Yuen Foong Yu Paper is the largest paper manufacturer in Taiwan and ranks 49th in the world.

### Vinda boosts capacity with PM start-ups

Vinda Sichuan and Vinda Shandong Paper have started-up two Toscotec-supplied AHEAD-1.5m tissue machines.

The two machines have come on-stream according to schedule at Vinda's tissue mills in Deyang, Sichuan, and Laiwu, Shandong, and are running at their maximum operating speed of 1,500mpm.

With a design speed of 1,700mpm and a net web width of 3,400mm, the two machines have second generation Steel Yankee Dryer TT SYD, jumbo suction press roll for improved dryness and softness and feature different energy saving solutions for Yankee hood design, with gas and steam.

As a result, Vinda's production capacity has overall increased by 60,000tpy.

Another unit identical to this one at the Shandong paper mill is scheduled for start-up in the second half of 2016.

### Lee & Man boosts capacity with PM start-up

Lee & Man Paper Manufacturing has started up a new 60,000tpy tissue PM at its mill in Chongqing.

The Valmet-supplied PM came online in October and has a width of 5.6m and a design speed of 2,000m/min. The mill currently runs three other tissue PMs with a combined capacity of 90,000tpy including a 60,000tpy unit that started up in June.

The firm is planning to expand further in the tissue sector, moving to raise its total tissue capacity from 150,000tpy now to 270,000tpy in 2016; It has signed up Valmet to supply two more 60,000tpy tissue PMs for the Chongqing facility. Each will also be 5.6m wide and have a design speed of 2,000m/min.



The AHEAD-1.5m tissue machines will increase Vinda's production capacity by 60,000tpy



## Vinda to start up new 30,000tpy tissue PM in Shandong

Vinda International Holdings plans to start up a new 30,000tpy tissue PM this month at a mill in Laiwu city, Shandong province, boosting its total tissue capacity to 950,000tpy.

The Toscotec unit will have a trim width of 3.4m and a design speed of 1,600m/min. An identical PM will come online at the same plant in 2016.

The Laiwu mill currently operates two tissue PMs with a combined capacity of 50,000tpy.

It is also building a greenfield mill in Yangjiang city, Guangdong province; the firm is planning a tissue capacity of 190,000tpy at the new plant.

Integrating with SCA: Vinda is also moving on integrating its business with its major shareholder SCA, which now holds a stake of more than 51% in it.

It will take SCA's holdings in South Korea, Southeast Asia and Taiwan into its ownership.

The move will give Vinda the exclusive right to market and sell some SCA brands in the diaper, tissue and feminine hygiene sectors in the regions, as well as the outright ownership of other brands.

The transfer will cost Vinda HK\$2.8bn.

Last year, the parent firm transferred its hygiene business in the Chinese mainland, Hong Kong and Macau to Vinda.

News from RISI ([www.risiinfo.com](http://www.risiinfo.com))

## GLOBAL

### Solenis announces price hike for process chemicals

Solenis has increased the price of selected process chemicals and containers by 2-4% worldwide.

Effective immediately, higher increases can be expected in countries where there has been significant local currency devaluation.

Charles Robinson, senior vice president, Pulp & Paper, said: "Escalating costs associated with labour, transportation, containers, and increased product and ingredient regulatory registration requirements make these increases necessary."

"We will continue to work in partnership with our customers to help mitigate these increases."

He added that the company continues to invest heavily in R&D.

Solenis is a global producer of specialty

## ASIA

### SCA strengthens presence in Asia

SCA has strengthened the cooperation with Chinese hygiene company Vinda by integrating its business in South East Asia, Taiwan and South Korea into the business.

As part of the transaction, SCA and Vinda have signed an agreement regarding the exclusive license to market and sell the SCA brands; TENA (incontinence products), Tork (Away-from-Home tissue), Tempo (consumer tissue), Libero (baby diapers), and Libresse (feminine care) in South East Asia, Taiwan and South Korea. Vinda will hold the rights to these product brands in these Asian markets.

The business will also acquire the brands Drypers, Dr.P, Sealer, Prokids, EQ Dry and Control Plus in these markets.

SCA president and chief executive Magnus Groth said: "Asia is an important

growth market for SCA with a large population and low penetration of hygiene products.

"This transaction strengthens the collaboration between SCA and Vinda and enables us to further leverage on our strengths to build a leading Asian hygiene business."

SCA has been a shareholder in Vinda since 2007, became its majority shareholder in late 2013, and has consolidated Vinda financials since the first quarter of 2014.

In 2014, SCA divested its hygiene business in China (Mainland China, Hong Kong and Macau) for integration with Vinda.

SCA's hygiene business in South East Asia, Taiwan and South Korea had net sales of approximately SEK 2.2 billion in 2014.

The agreement is subject to approval by the independent shareholders of Vinda and closing of the transaction is expected during the first quarter of 2016.

chemicals for the pulp, paper, tissue, oil and gas, chemical processing, mining, biorefining, power and municipal markets.

## SAUDI ARABIA

### Papcel to deliver tissue paper line to Saudi Arabia

The Papcel Group has signed a contract to deliver a new paper machine to a confidential company in Saudi Arabia.

It will produce papers for the production of napkins, paper towels, tissues and toilet paper, and is the supplier's largest delivery to the Middle East so far.

In addition to delivery of machinery and equipment, the contract also includes engineering services, delivery of electro installations and a turnkey machine line assembly.

It will be supplied with modern technology machines with hydraulic headbox and Crescent Former technology.

At the end of September 2015, Papcel reached the highest revenues level in its history.

It added that the second half of the year has been its most successful period, not only in terms of newly concluded contracts but also by opening new production premises in Italy.

The company plans to reach a total of 1.59 billion CZK in revenues this year.

## SWEDEN

### Sofidel boosts Nordic presence

Sofidel's Swedish subsidiary Swedish Tissue has boosted its capacity after it started up a new converting plant in Kisa. The new converting plant is now fully operational with two active production lines: the first line is focused on toilet tissues, whilst the second line can produce both kitchen towels and toilet tissues.

It is the group's most automated production site and its integration has saved the company around 40% of space. This project was particularly challenging as its implementation involved the diversion of the Kisa river by approximately 300 metres.

The plant is also distinguished by the automation choices made for the production process.

By adapting techniques mainly used in the food and beverage sector, Sofidel developed an automatic reel conveying system process for the first time in its history, which transfers them between the paper mill and the converting plant, and the fully automated control system of the finished product: from the line ends to the loading bays via the warehouse.

This choice has saved approximately 40% of the space.

The plant produces private label products intended for the Nordic markets, in



WEPA Giershagen's new line will produce high-quality super-soft toilet tissue

## GERMANY

### WEPA Giershagen boosts capacity

WEPA Giershagen has increased its high quality tissue capacity by 32,000tpy after it started up a Toscotec-supplied AHEAD line.

The turnkey Toscotec delivery for the new TM19 is based on the best available technology and includes a stock preparation system for virgin pulp,

an AHEAD-2.0S tissue machine, TM and plant auxiliaries, electrification and control systems.

With a design speed of 2,000mpm, the tissue machine is equipped with single layer headbox, double press configuration, TT SYD-15FT and Milltech Hood, dust and mist removal system.

The new line will produce, among the other grades, high-quality super-soft toilet tissue.

Frank Folcz, Wepa Hygieneprodukte mill manager at Giershagen, said: "We are very excited for this new project, the new AHEAD line will increase the site's production of 32,000 tpy with high quality tissue."

By expanding the production output of tissue paper, WEPA will optimise the existing procurement and logistics structures in Europe, enhancing the competitiveness of the entire group.

particular Sweden, Denmark, Finland and Norway.

With over 100 years since its establishment, Swedish Tissue represents a historical paper production site.

Sofidel said the move is an indication of the importance of the region and the company's desire to strengthen its position in the Nordic countries.

The Sofidel Group is a world leader in the manufacture of paper for hygienic and domestic use.

Founded in 1966, the Group has subsidiaries in 13 countries – Italy, Spain, Sweden, the UK, Belgium, France, Croatia, Germany, Poland, Romania, Greece, Turkey and the USA – with more than 5,200 employees.

Sofidel is the second ranking group in Europe in terms of production capacity in the tissue sector (1,050,000 tonnes per annum).

Swedish Tissue is located in the Municipality of Kinda in Östergötland County, Sweden.

It has a fully integrated tissue process and produces parent reels and finished consumer products.

Since 2010 the company has formed part of the Italian group Sofidel.

Swedish Tissue employs 165 staff and has a turnover of Euro 82 million (31 December 2014) and has an annual production capacity of 56,000 tonnes (31 December 2014).

## PORTUGAL

### Portucel targets tissue market with €120m investment

The Portucel Soporcel group is to significantly boost its tissue capacity after announcing plans to install a new tissue machine at its Cacia pulp mill.

The €120 million investment will increase the site's tissue capacity by 70,000tpy to 130,000tpy and will also include integrating converting capacity. It is subject to Portuguese authorities and if the necessary conditions are met, production is expected to start during the first half of 2017.

Located in Cacia in the Aveiro district, the mill has an annual output of 320,000 tonnes of bleached eucalyptus pulp intended for processing into special papers such as high quality decor, filter, cigarette and tissue paper.

The move follows the company's diversification into the tissue sector earlier this year when it acquired Portuguese tissue paper manufacturer AMS BR Star Paper.

The company has officially opened AMS's new tissue paper production line at its plant in Vila Velha de Ródão.

This expansion project involved investment of €39m and created 70 new jobs, doubling the production capacity of the plant which is now set to increase exports by around 40%.

The new mill has increased its factory floor space from 40,000m<sup>2</sup> to 70,000m<sup>2</sup> and is fitted with the latest environmental technologies that will allow it to cut CO<sub>2</sub> emissions by 22,000tpy.

With this new production line in Vila Velha de Ródão, the Portucel Soporcel group said it is asserting itself as one of Europe's most competitive manufacturers in the tissue market, a position it will improve further with the investment in Cacia.

The group is Portugal's third largest exporter and a leading European manufacturer of uncoated woodfree (UWF) printing and writing paper.



## CHILE

### CMPC to participate in mediation involving tissue cartel case in Chile

Empresas CMPC has agreed to join a mediation proposed by the Chilean Consumer Financial Protection Bureau (Servicio Nacional del Consumidor – SERNAC) in order to compensate consumers affected by a price collusion involving the two largest producers in Chile, Empresas CMPC and SCA, through their subsidiaries CMPC Tissue and PISA.

CMPC general manager Hernán Rodríguez said in an interview with a local newspaper: "We issued a public communication to SERNAC saying that we'll collectively seek a mechanism to compensate consumers. It is not an easy task, which requires us to work with experts and authorities."

Chile's competitive practices regulator (Fiscalía Nacional Económica - FNE) is accusing CMPC Tissue and PISA of colluding to control market prices in the country from 2000 to 2011, including prices for toilet paper, paper towels, napkins and facial wipes.

According to the local media, SCA did not agree to participate in the SERNAC's mediation process.

The company said it will wait for the Free Competition Defense Court (TDLC)'s decision on the tissue cartel, since the volunteer mediation could negatively affect its position the legal process.

(News from [www.risiinfo.com](http://www.risiinfo.com))

## BRAZIL

### Santher reports 3Q profits; company implements extra price adjustments

Tissue producer Santher reported net revenues at Real 340.4 million in the third quarter of 2015, an increase of 0.9% over July-September 2014.

Net loss for the period was Real 37.3 million compared to a net profit of Real 600,000 a year ago. EBITDA dropped 34.1% to Real 32.1 million.

Net debt was Real 571.5 million at the end of September, 22.4% higher than a year ago. Some 33.1% of its debt is reported to be in dollar and linked to its exports.

Through September, Santher's revenues hit Real 992.6 million and were 3.8% higher than January-September 2014. EBITDA declined 13.5% to Real 107.1 million and it had a net loss of Real 41 million compared to a net profit of Real 9.4 million a year ago.

The company said: "The first nine months of this year suffered with the Brazilian economic crisis, with increasing inflation, high interest rates and the depreciated Real. According to analysts, Brazilian GDP will decline 3% in 2015."

Inflation hit 9.49% in September 2014-September 2015, while the Real depreciated by 49.6% over the US dollar in January-September 2015, and the country's Central Bank raised the interest rate from 11.75% to 14.25%.

In order to offset the negative impacts of this situation in its costs, including higher electricity and pulp costs, Santher decided to implement extra price increases on its products this year.

"This had a negative impact on the company's sales volumes in the third quarter, but the situation is already back to normal," the company added.

(News from [www.risiinfo.com](http://www.risiinfo.com))

## MEXICO

### Potosí's new 25,000tpy tissue PM begins production; PM2 stops

Mexican Fábricas de Papel Potosí has started up a new 25,000tpy tissue paper machine at its mill located in San Luis Potosí.

The equipment was supplied by A.Celli; it has a width of 2,800mm and a working speed of 1,500m/min.

Potosí's paper mill has a further two tissue paper machines, which together make 18,500tpy of napkin and toilet paper. According to a source, the company has idled its 8,500tpy PM2 and has plans to rebuild its 10,000tpy PM1.

The Mexican company has been operating for over 30 years, manufacturing and converting tissue paper made of recycled domestic fibre. Its portfolio includes toilet rolls, white table napkins, printed table napkins, stationery and spunlace.

## Fruits of a smart marketing strategy

Japanese designers are never afraid to turn stereotypes on their head if it makes for a sale. Their latest idea means we can once again celebrate style genius.

Fruits Toilet Paper offers orange, watermelon, strawberry and kiwifruit packaging around 2 ply rolls. Brilliant.

It's the brainchild of design studio Latona Marketing and has been introduced in over 50 media outlets, including TV stations, magazines, and websites in 23 cities across 19 countries.

Designers Latona Marketing told TWM: "The conversion of spherical fruit into cylinder shapes. The fruit shapes do

not actually exist, and it makes people wonder about whether they are real. This is achieved through the effective use of the fruit cross-sections.

"Many companies and stores throughout

Japan give a roll of toilet paper to customers as a novelty gift to show their appreciation. The Fruit Toilet Paper has been designed to wow customers with its cute style, perfect for such occasions."



# Vietnam – modest but steady growth in an underdeveloped T&T market



Bill Burns

senior consultant,  
Fisher International

Globally, the Asia Pacific Region is the largest centre of Pulp and Paper (P&P) production. Equally, the Asia Pacific Region is the largest centre for Towel and Tissue (T&T) production worldwide. China dominates as the regional producer country for both total pulp and paper capacity (Figure 1) and for T&T production (Figure 2).

Vietnam holds a small 1% share position in both the full P&P capacity and the production of T&T products. The P&P product mix distribution within Vietnam is heavily weighted to packaging which makes up more than 50% of the country's capacity. There is also a considerable printing and writing presence at nearly 30%. T&T ranks third in major grade market share hierarchy at 9% (Figure 3).

A more in-depth look at Asia Pacific T&T mills indicates mill capacities for all but the largest producing countries are relatively small throughout the region. Average T&T mill capacities for the largest producing countries are in the 60,000 to 70,000MTPY which is first quartile in the Asia Pacific region and globally. Vietnam's average mill capacity is ~18,000MTPY placing it in a fourth quartile position in the region and globally (Figure 4).

Historic capacity trends are as important as current capacity and market share for understanding T&T production within a country. Vietnam has been growing its capacity at a steady albeit modest rate over the past

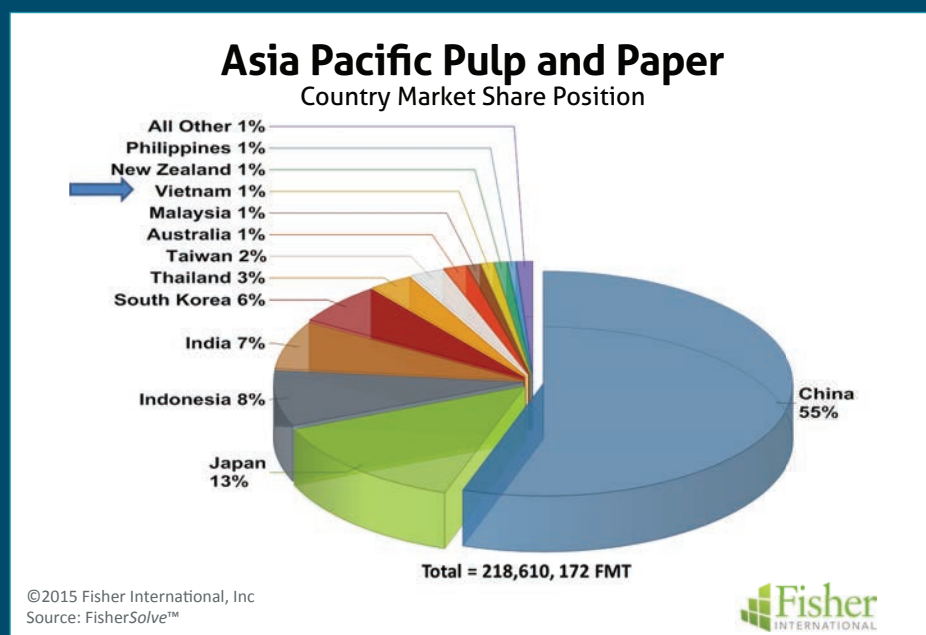


Figure 1 Asia Pulp and Paper Market Share





seven years. Announced projects set to come on line this year suggest the growth trend will continue at the same rate (Figure 5). The question is whether there is potential for even more capacity in the future.

Vietnam's population in 2009 was 89.7 million people and current estimates elevate that to about 95 million. Looking at current T&T capacity and using current population estimates, the per person T&T consumption rate is 1.58 kg. This level of usage places Vietnam significantly off the market penetration of many Asia Pacific countries suggesting significant potential for growth.

There are many factors that influence market penetration. Some of these include the number of people at various income quartiles, cultural behaviours, access to alternative solutions and age demographics to name a few. Another factor may be degree of urbanisation within the country.

Shifting from a rural to urban concentration appears to tell us something about acceptance and dependence on T&T products. Vietnam's population is just short of 40% urbanised while T&T capacity is less than 2 kg/person. Countries like South Korea and New Zealand have 70% urbanisation rates and capacity per person is up in the 12 to 14 kg/ person level (Figure 6). If urbanisation is a factor in itself or surrogate for a combination of factors, it does suggest that growth may be dependent on a structural shift from rural to more urban environments.

Fibre sources and machine specifications are the two commonly considered dynamics for understanding T&T production. T&T fibre mix in the Asia Pacific countries represent a diverse set of strategies ranging from primarily recycled fibre in Malaysia to mostly kraft in China. Vietnam is nearly balanced between recycled and kraft (Figure 7). Machine configurations also vary considerably in the region. Machine speeds and trims are significant

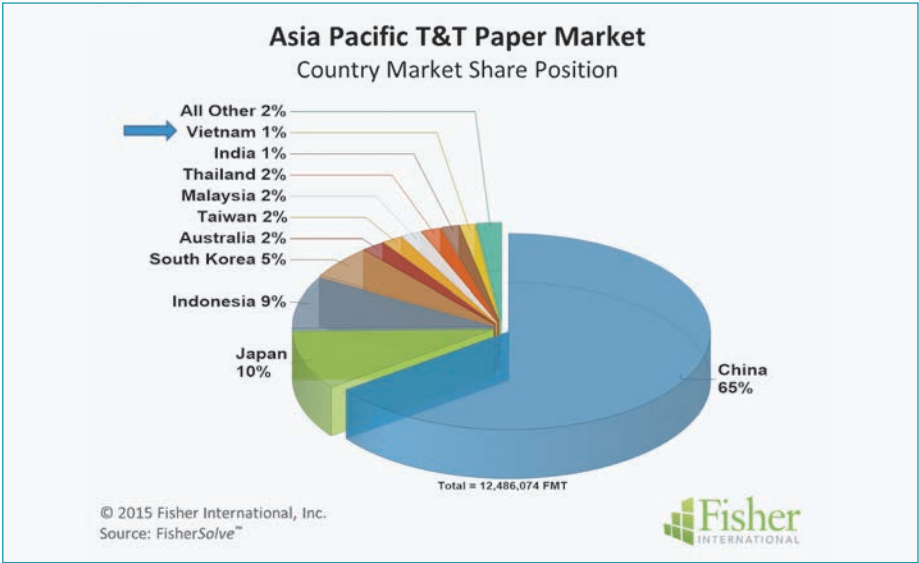


Figure 2 Asia T&T Market



Figure 3 Vietnam Paper Products Market Share

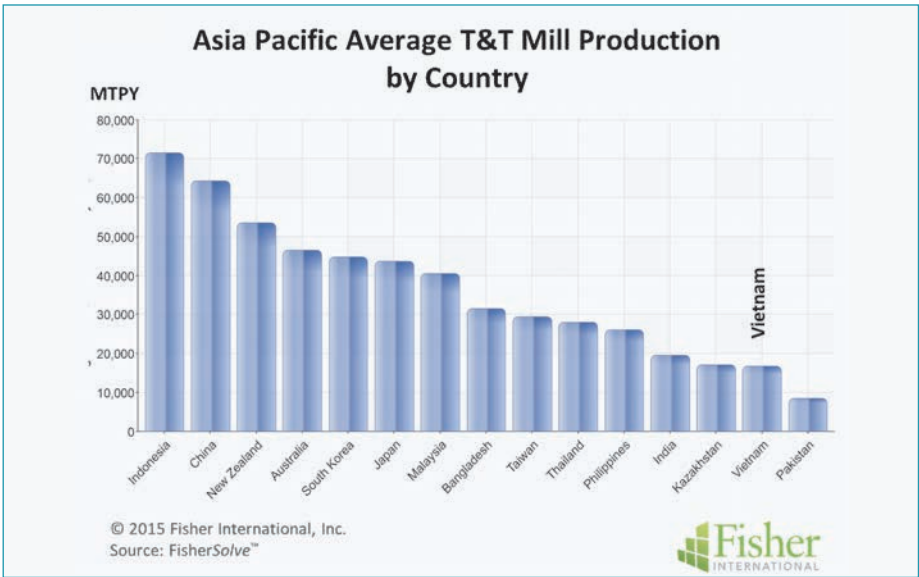


Figure 4 Asia Average T&T Mill Production by Country

indicators in assessing the competitive position of T&T production. In the Asia Pacific market, machines tend to be uniformly narrow (2.5 – 3.5m) in trim. Speeds, on the other hand, range from slow (400mpm) to moderate (1,500mpm). Vietnam's machines average on the lower end of both categories, but competitively the bulk of machines in the Asia Pacific Region are of similar size (Figure 8).

In the end, cost competitiveness will have the greatest influence on a mill's ability to compete against other mills within the country and internationally. Within the Asia Pacific region there is a fair degree of competitiveness based just on



"Fibre cost is key to an advantage against both China and Indonesia where Vietnam integrates recycled into its furnishes and where the other two are more dependent on purchased kraft."



Figure 5 Vietnam T&T Market Growth Trend

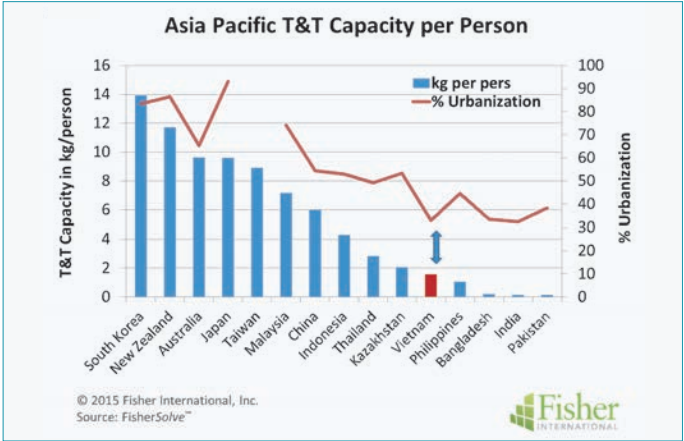


Figure 6 Asian Countries' T&T Capacity per Capita

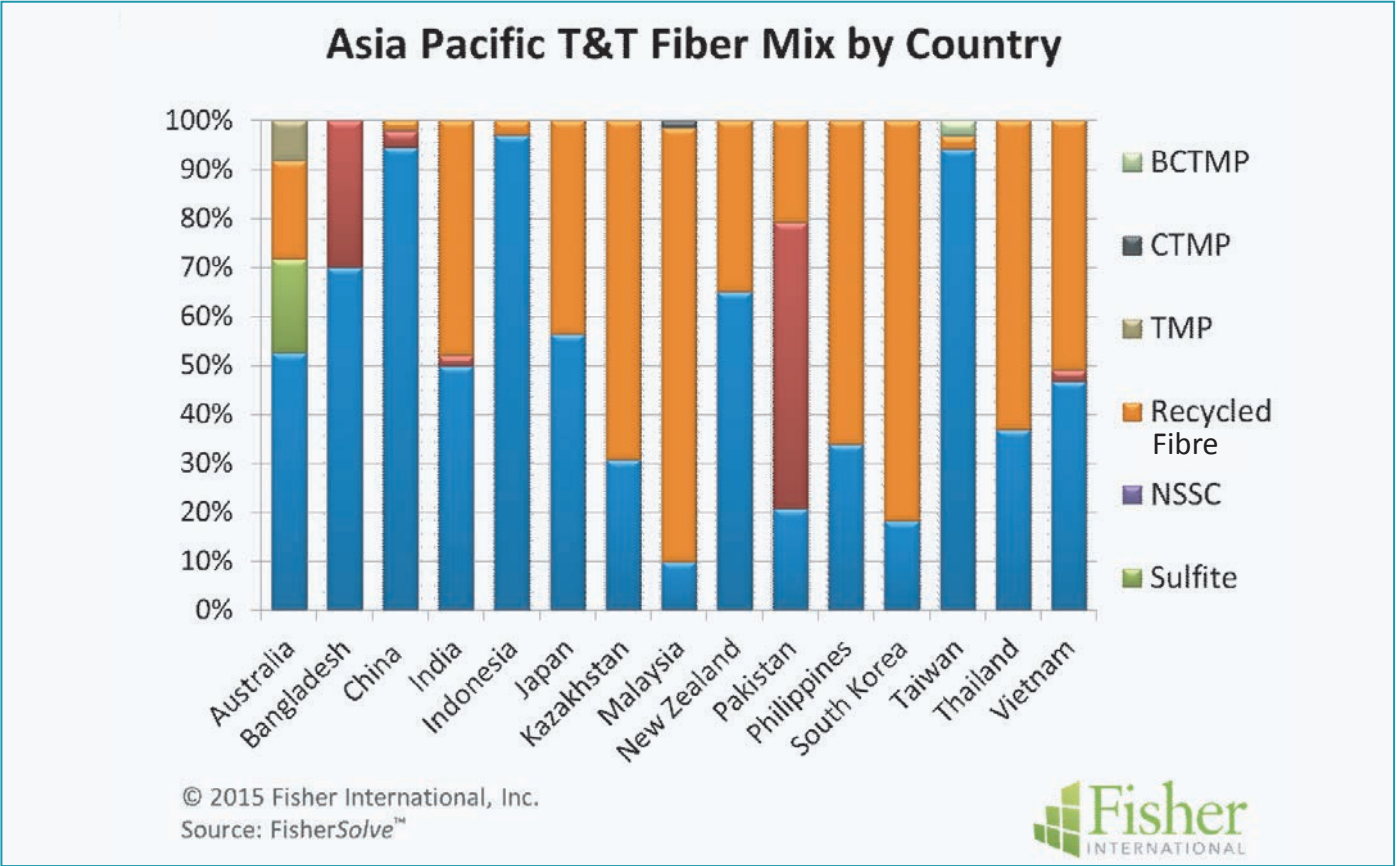


Figure 7 Asia Average T&T Fibre Mix by Country



By Fisher International's Bill Burns

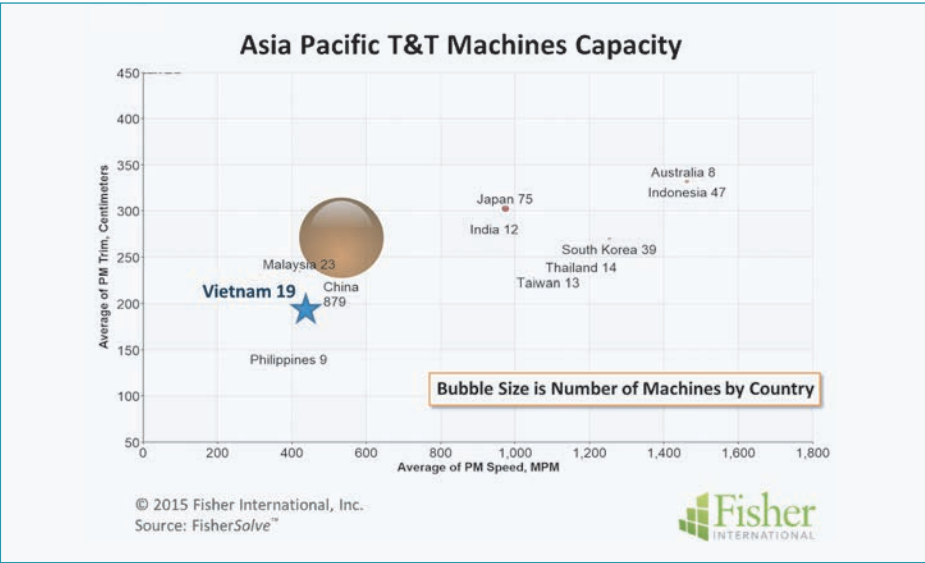


Figure 8 Asia T&T Machines Capacity

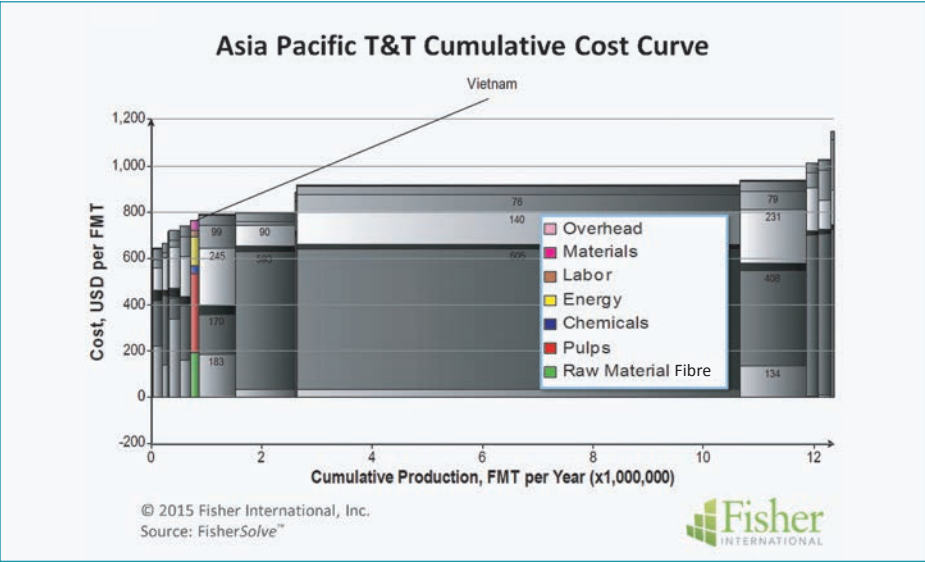


Figure 9 Asia T&T Cumulative Cost Curve Highlighting Vietnam

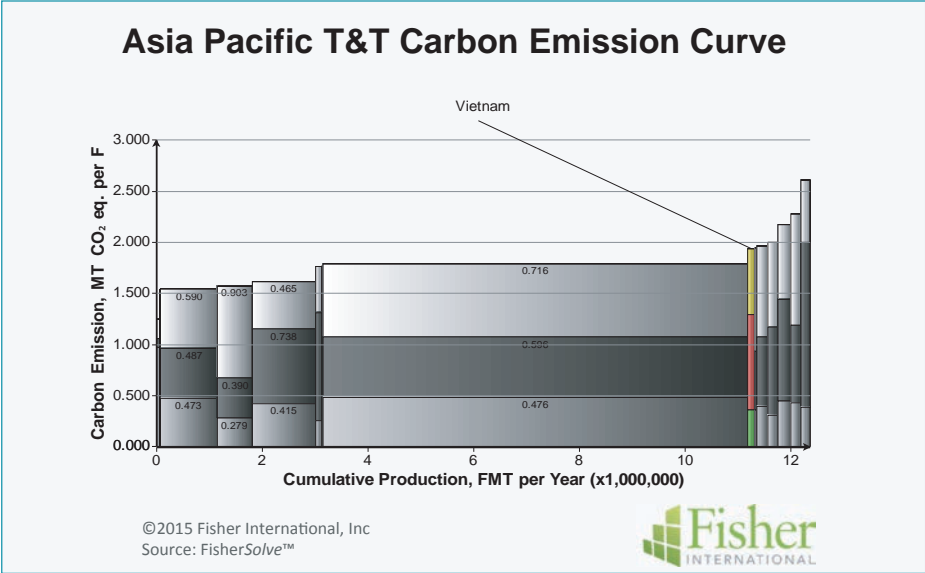


Figure 10 Asia T&T Carbon Emissions Curve Highlighting Vietnam

cost positions. Vietnam has a good cost position against the market leader, China, but shows some vulnerability against a rapidly growing Indonesian T&T business (Figure 9). Fibre cost is key to an advantage against both China and Indonesia where Vietnam integrates recycled into its furnishes and where the other two are more dependent on purchased kraft.

Vietnam's carbon footprint is a potential future cost issue; it has a heavier carbon load than the China and the three other higher market share countries: Japan, South Korea, and Indonesia (Figure 10). Coal dependence in its fuel mix will be the key consideration for Vietnam as carbon regulations become more constraining.

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](mailto:info@fisheri.com).

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# Consumer tissue in Vietnam: changing lifestyles spell good news for the industry

**W**hile Vietnam's household disposable incomes are the lowest, on average, of all major Asia Pacific nations, long-term economic growth continues to support strong gains in the country. Aside from the rising incomes, urbanisation and improved household sanitation facilities are also among the key enabling factors in boosting demand for tissue products in developing countries, and Vietnam is no exception. The country has seen growth in urban population, which is expected to continue in the coming years at a rate faster than the average total population growth to add over four million more city dwellers by 2019.

Urbanisation and modernisation come with the improved hygiene infrastructure. Studies by the World Bank on sanitation facilities indicate a significantly higher use of improved sanitation facilities in urban areas in the developing markets in Asia, compared to rural use. According to the joint report released in 2010 by the World Health Organisation and UNICEF (with latest data sourced to 2008), in Vietnam 94% of the urban population reported the use of improved sanitation facilities versus 67% in rural areas.

## Changing lifestyles benefit consumer tissue industry

Rising incomes and infrastructure development improve the living standards of Vietnamese consumers and influence their lifestyle changes, which lead, among other things, to stronger demand for modern hygiene and tissue products. To satisfy the rising demand and changing preferences for quality value-added tissue products, especially in urban areas, domestic production and product development have been stepped up in recent years.

In 2014, value of retail consumer tissue in Vietnam increased by 12% to a total of US\$128 million (US\$, constant value, fixed 2014 exchange rate), while volume grew by a very healthy 9%, over 2013.



Svetlana Uduslivaia



*Euromonitor International's  
head of tissue & hygiene industry*

Toilet paper still makes the biggest contribution to retail tissue sales, with regular consumption on the rise in urban and rural areas. However, paper napkins recorded the fastest retail value growth, at 25%, in 2014. The popularity of cable TV, growing internet access, educational opportunities abroad (and hence acquired habits), and the growing number of expatriates living and working in Vietnam all contributed to the emergence of Western culture in the country and help to drive demand for paper tableware. Furthermore, manufacturers encourage the demand further by introducing napkins in small packaging sizes to promote the use of napkins as economical boxed tissues for those on a tighter budget.

Aside from napkins and toilet paper, facial tissues continue to gain acceptance. In the past few years, boxed facial tissues enjoyed robust growth thanks to the ongoing manufacturers' advertising efforts and expanding portfolio of products in all price ranges.

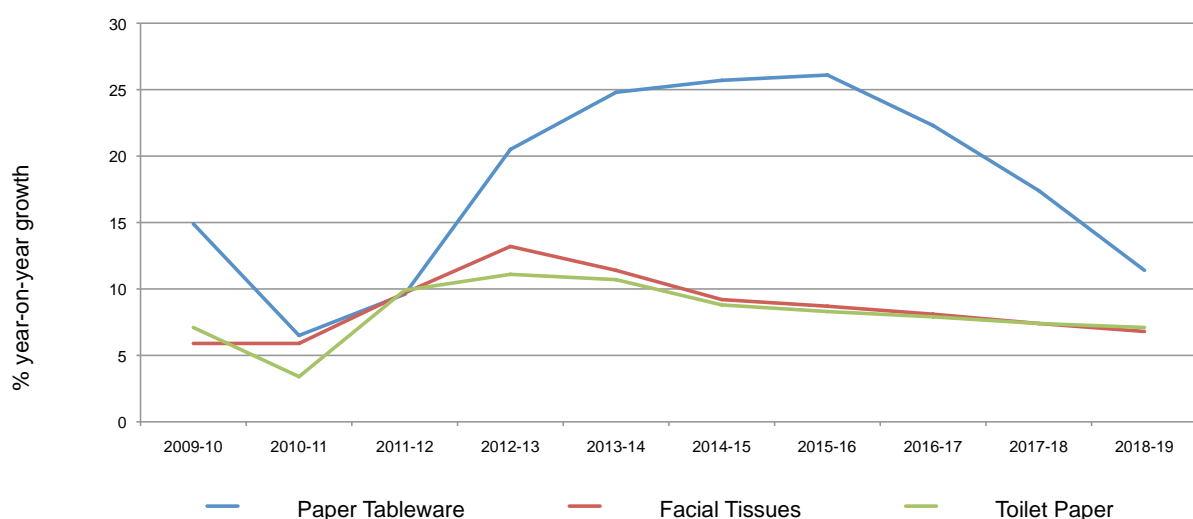


Table 1: Vietnam, retail tissue sales by category, % year-on-year value growth, US\$ constant value



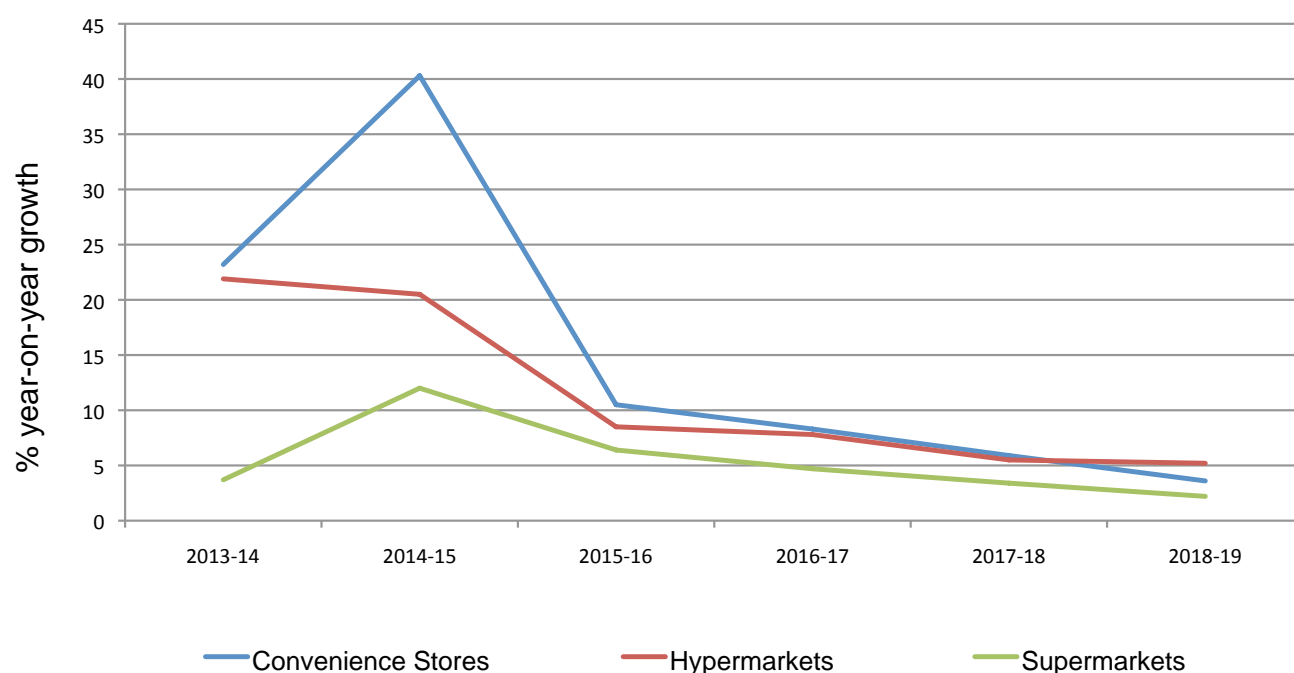


Table 2: Vietnam, modern retail, sites/outlets, % year-on-year growth

Source: Euromonitor International

International manufacturers enjoy a good competitive position in Vietnam. New Toyo Pulpp Viet Nam Co, Cellox Paper Co and Asia Pulp & Paper Co target mainly urban middle- and high-income consumers, willing to pay a premium for high quality products with added benefits. On the other hand, domestic manufacturers, such as Ha Noi Truc Bach Paper JSC or Linh Xuan Paper JSC, focus more on low- and middle-income consumers who look for good quality at a lower price.

### Reaching Vietnamese consumers to expand consumption

Product innovation and the growing number of more affluent households in the country are likely to result in higher demand for more sophisticated consumer tissue products, thereby supporting industry growth in the coming years. Moreover, the changing lifestyles in the country create additional venues for the manufacturers and brand marketers to reach consumers, expand consumption, and build brand loyalty.

Internet and social media are becoming an important source of information for

Vietnamese consumers, especially younger generations. According to a survey conducted during June 2015 by market research companies Epinion and OMD, Facebook is the main portal for Vietnamese youths searching for information about brands. 52% of those surveyed said that Facebook content from brands they followed was an important source of information. Meanwhile, Smartphone Usage in a Vietnam report, which was published by DI Marketing in 2015, found that social media was the top online activity for more than 80% of mobile phone users aged under 25 years.

Additionally, Vietnam has seen a significant increase in the number of Internet users. Although cash remains the principal method of payment in the country, online retailers are adapting to a cash-dominated society, for instance by opening showrooms for the Vietnamese to see the products and pay in cash for goods delivered later to their homes. Further promoting online shopping, in late August of 2015, the Vietnam E-Commerce and Informatics Agency (VECITA) launched a month-long 'Autumn Online Shopping Day' campaign, and

thousands of businesses were able to offer discounted products on the VECITA website.

Aside from online retail and social media use, the country also sees a significant expansion of modern retail concepts which present a good opportunity to promote tissue products, such as napkins and paper towels placed next to food and beverages. For instance, convenience store chains are expanding nationwide. Family Mart now has 72 convenience stores in Vietnam, 52 of which also serve fast food, including sushi, stews, dried food and sandwiches. Also, filling stations in the country increasingly offer fresh coffee and baked goods.

It has to be noted, however, that while modern retail offers great opportunity to build and expand customer base of urban and more affluent consumers, traditional retailers still account for nearly half of all retail tissue sales. Ensuring good retail distribution through these retailers is a must, especially to reach lower income consumers and those living outside of major urban areas.

# Is Vietnam at last beginning to emerge from its troubled history?

*Tissue demand is growing at 20%, so Vietnam Pulp & Paper Association vice chairman and secretary general Vu Ngoc Bao heralds a major opportunity as the country "joins the world's economy." TWM reports.*

**V**u Ngoc Bao is reflecting on two recent major events the significance of which is hard to over-estimate for the world, and as we sit in his modest office in a back street of Hanoi, for Vietnam especially.

One was the Paris Climate Conference (COP21) which reached its historic commitment on 12 December. Vietnam's Prime Minister Nguyen Tan Dung attended earlier and signalled the country's commitment to efforts to manage climate change. For Vietnam, 42% forest and heavily reliant on energy intensive manufacturing, it's an important step, says Mr. Bao.

The second will bear more immediate benefits. Vietnam is a recent signatory to the Trans-Pacific Partnership (TPP) which slashes some 18,000 tariffs to free up trade among the dozen participating countries. "It's a big opportunity," he says.

"It opens trade for us and it means we have penetrated into the world economy. This has opened up a lot of doors; we are open for business and we can have trade with every country in the world."

As Mr. Bao mentions the opening of doors to opportunity, it is hard not to reflect on the symbolism of our location.

We have met at his office located down a tiny backstreet in the centre of Hanoi, north Vietnam. The ally's entrance is flanked by tradesmen and women chatting and cooking while perched

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Helen Morris

Editor,  
Tissue World magazine

*Prime Minister Nguyen Tan Dung attended the Paris Climate Conference and signalled the country's commitment to efforts to manage climate change. For Vietnam, 42% forest and heavily reliant on energy intensive manufacturing, it's an important step, says Vu Ngoc Bao.*



*Vietnam's second largest city Hanoi will be taking full advantage of the recent signatory to the Trans-Pacific Partnership (TPP), which slashes 18,000 tariffs to free up trade.*  
© Nam-ho Park



By Tissue World magazine editor **Helen Morris**

on small, foot-high stools. Blink, and you'd miss the entrance, which TWM did, two or three times. Fortunately, the many friendly and curious locals were happy to point, giggling, towards the right direction.

VPPA's office is tucked completely out of sight, past a small shrine full of smoking incense burners and workmen involved in one of the many hundreds of building projects across the city.

Mr. Bao's optimism transcends the surroundings. Vietnam is up for the challenge, not the first the country has faced: "We had a very big challenge in the war. Everyday still, we have difficulty. But as a country, we need to be free moving and we have to welcome everything. We're not yet strong but we're learning. We welcome more investment which will help us to develop the economy too. And the country's tissue and paper sector is a big part of that."

The potential is evident in the country's tissue demand, which he says is seeing 20% growth: "People's living standards are increasing so they are using more toilet paper and tissue products. I must also stress about the quality: tissue

products here are now much better quality than they have ever been. We've seen improvements in production, with companies using more modern and better paper machines. Restaurant tissue, for example, was previously very low quality but it has greatly improved."

*The 20% growth does need to be put into perspective: "It's starting from a very low capacity point. Until even fairly recently some Vietnamese people didn't use tissue at all. Only people in cities use toilet paper, in the countryside they still largely don't use it. But now people who live in the countryside, the mountainside, they are using it too."*

The 20% growth does need to be put into perspective: "It's starting from a very low capacity point. Until even fairly recently some Vietnamese people didn't use tissue at all. Only people in cities use toilet paper, in the countryside they still largely don't use it. But now

people who live in the countryside, the mountainside, they are using it too. The infrastructure here has improved, so transport is much easier. Living standards generally are increasing and people need more quality. Their habits are slowly changing; if people have a good life, they use more tissue."

However, he adds the country's pulp sector isn't developing as it should: "We need more paper. We are rich in forestry, 42% of Vietnam is forest. But the pulp industry isn't developing, it needs money. And the local investors don't have the money to invest in pulp."

The country needs to make better use of its natural resources: "We have land, a young and energetic labour-force, forests ... but we export only raw materials, fish, rice, woodchip. If we continue to only export raw materials, it's not good for us. We need to invest in the processing so we can sell a product that has higher value. We see this in the tissue industry. And tissue's potential is evident: many companies here that produce print and writing papers, more and more of them are diversifying into tissue as our living standards continue to increase. There's a lot of potential."

*"We had a very big challenge in the war. Everyday still, we have difficulty. But as a country, we need to be free moving and we have to welcome everything. We're not yet strong but we're learning. We welcome more investment which will help us to develop the economy too. And the country's tissue and paper sector is a big part of that."*



# Bringing Japanese efficiency – and patience – to Vietnam

*Recycling pioneer JP CORELEX VIETNAM is poised to reap the benefits ... but it has to narrow the gap between polar opposite tissue industries and cultural habits. TWM talked to Masahiko Nagata.*

Japanese-owned JP CORELEX VIETNAM (JCV) is one of only a handful of foreign companies operating in Vietnam, and for Masahiko Nagata – the Japanese general director of the Hanoi-based tissue producer – the two country's tissue industries couldn't be more different.

Speaking fluently in impeccable English, he is friendly, laughs easily, and regularly references the habits of the two countries throughout our interview.

Japan and Vietnam's tissue industry and cultural habits are polar opposites in several ways: one, a stale tissue market seeing a steady tissue demand of high quality products by consumers that place strong emphasis on environmentally-sustainable products, and the other, a developing economy which even until fairly recently had large pockets of its population that didn't use any tissue products.

Even now, he adds, sustainable products are simply not on the Vietnamese consumer's agenda – presenting quite a challenge to a company that makes 100% recycled tissue products.

During the drive to the mill, he talks about how even from the very beginning when JCV started production in Vietnam in 2009, the first hurdle was to change people's mind-set about recycled products: "In Japan, recycling is ingrained as part of our culture," he says.

"Even as children we are taught how to wash a used milk carton, open it, and then wash it again before they recycle it. There are recycling bins at most supermarkets. In Vietnam, even people on higher incomes don't particularly register recycled tissue products because they don't perceive them to have the same quality as the white tissue products that are the norm here. So the challenge even from the very start has been about changing an ingrained mind-set and well-established habits."

The company's 60,000m<sup>2</sup> site is based 40km from Hanoi and is a joint venture – 71% is owned by Japan's Corelex San-Ei and the remaining by Japan Pulp and Paper. Its 190 staff manufacture 100% recycled tissue paper used to create toilet paper, facial, towel and napkin products.

Most production is exported overseas as jumbo rolls with about 30% going through converting and making finish goods. Its only raw material is recycled fibre and the company's TM – an A.Celli-supplied machine with a width of 2.85m and a speed of 1,700 – produces 80 tpd. "As you can see, there's plenty of space for one more machine!"

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Helen Morris

Editor,  
Tissue World magazine



Financial manager Shinya Narisawa (left) and general director Masahiko Nagata at the company's site based 40km from Hanoi, northern Vietnam



By Tissue World magazine editor **Helen Morris**



Most production is exported overseas as jumbo rolls with about 30% going through converting and making finish goods

The JP Corelex Group has mills in Hokkaido, Kanagawa and Shizuoka in Japan, where it established technologies for the recycling of difficult-to-regenerate wastepaper around 50 years ago. It now accounts for a large share of the recycled toilet roll market in Japan, helped by products such as coreless toilet roll.

Its Japanese market strategy and philosophies have been applied directly to its production site in Vietnam: "We brought the same system that we do in Japan here, so the quality is the same," he says. While as countries, Japan and Vietnam have a very good working relationship, he adds that there are "lots of additional standards required for a foreign company operating in Vietnam".

**The north and the more commercialised south of Vietnam also hold different challenges and have very different tissue trends. Distribution is key.**

Vietnam's potential tissue market is very clear: it has a young and growing population of nearly 90m, a steadily increasing economy buoyed by foreign investments and exports, and rapidly changing demographics that is seeing its rural population becoming increasingly urbanised and moving to cities.

However, in reality the current tissue industry is still very small – per capita consumption is less than one kilo per person. "The challenges facing tissue growth are significant," he says. "Toilet infrastructure is a problem because a lot of the country's sanitation is still not ready for toilet paper.

"It's the same situation as inland China. Sanitation just isn't geared up for toilet paper use in many areas, which means consumption is low. The market size in parts of Asia is very small and it's difficult to count based on population only, it's not as straightforward as that. Other market dynamics and the habits of the local people also need to be taken into account."

Vietnamese people he says tend to see recycled products as not as high quality as virgin products – "they want that white toilet paper look". "The question is, I don't know how long to wait; how long until we start to see that change in consumer behaviour here?"

"We're been here for six years and we're not seeing the market tissue grow that much, there is no definite statistic to show growth. We stay because of the potential. Tissue use is starting from a very low percentage of the population and it's spreading and becoming more of a habit. It's just happening very slowly."

The north and the more commercialised south of Vietnam also hold different challenges and have very different tissue trends. Distribution is key: "Here we sometimes have to deliver to each store, and so the cost increases."



The site's only raw material is recycled fibre and the company's TM – an A.Celli-supplied machine – produces 80tpd

Southern Vietnam holds around 50% of the tissue demand, the majority of which is supplied by Saigon Paper and New Toyo, while the north has 25% of the country's tissue demand with the rest scattered across the rural countryside. Because of this dynamic, JCV exports around two thirds of its production all over the world.

"For us, tissue consumption here is lower than expected, and the speed at which demand and investments occur generally throughout the country are increasing slower than we would have

**While new tissue capacity in Vietnam is mostly based on virgin pulp, JCV is determined to keep to its philosophy of recycled tissue products: "We try to utilise waste paper because we believe it contributes to society. Our main focus here is to change the image of recycled tissue paper; it comes down to what people choose, and little by little the situation is changing."**

liked. What keeps us here is the potential of the country. There is opportunity to develop sales for domestic use and at the same time we also have long-term relationships with companies abroad."

While new tissue capacity in Vietnam is mostly based on virgin pulp, JCV is determined to keep to its philosophy of recycled tissue products: "We try to utilise waste paper because we believe it contributes to society. Our main focus here is to change the image of recycled tissue paper; it comes down to what people choose, and little by little the situation is changing."

# Not content with being a market leader, Saigon Paper plans to double capacity in the next five years

*Vietnam is a classic tissue growth market. One million new urban residents added each year - per capita consumption less than 1.0kg – behind only China and India among Asia's growing economies. TWM met one company benefitting as the government toughens environmental regulations.*

It's only at the end of our interview – through a translator at Saigon Paper's headquarters in thriving and colourful Ho Chi Minh City (still known locally as Saigon) – that the company's founder and chief executive Vi Tien Cao drops his signal business ambition into our conversation.

He aims to double the company's tissue capacity in the next five years. The statement comes a little as a surprise, not just because it's such an ambitious target, but because Saigon Paper is already the country's market leader. Then again, that's perhaps why.

Maybe it is actually testament to how Cao does business – with plenty of drive and ambition, underlined by a quiet confidence and humility.

TWM has travelled from North to South Vietnam for this magazine's Country

Report, and doing so has made it evident that Cao's ambitious expansion plans are clearly based on fact. The opportunities for the tissue market in the country are vast and Vietnam is a perfect example of a blueprint for the tissue market's potential in the world's developing economies.

Saigon in particular is brimming with commerce and potential. Thousands and thousands of motorbikes – by far the transport of choice – speed across the city past a multitude of local shops selling anything and everything. The big global retailers are also here: the Co Op Mart and FamilyMart are well established, while Japan's 7-Eleven plans to take on the market in the next few years.

After three decades of brutal warfare which ended with the capture of this city in 1975, Vietnam now continues to rapidly reform and offers up a staggering



Helen Morris

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*"The company's market strategy is to produce consistently high quality products. Target markets include affluent consumers to premium, mainstream, as well as value markets in the domestic and international markets."*





This year we are investing  
5 billion SEK in our mills.

But that's not what we  
are most proud of.

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At Södra we always put the forest first. After all, our members and forest owners are one and the same: Their forests guarantee that we will have a secure supply of high-quality raw material for generations to come, and that the environment and sustainability will always be at the core of everything we do. Together with the 5 billion SEK we're investing in our mills, it all adds up to the best possible pulp produced from the most sustainable of sources. Follow the expansion at #expansionsodra

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By Tissue World magazine editor Helen Morris

amount of potential. It became unified in 1975, while political and economic reforms ("Doi Moi") were launched in 1986. Nominal GDP per capita was below USD 100 in 1990, but in 2014 it rose to USD 2,012. Its demographics are key for tissue potential: the country is the third fastest growing economy in Asia after China and India, and the world's 15th most populous country with a total population of 93.4 million as of 2014. Rapid urbanisation and population growth aren't expected to slow down, with urbanisation increasing at a rate of 3.1% from 2014-2019. It's estimated that one million new urban residents will be added each year.

Meanwhile, Vietnam's tissue consumption per capita is less than 1.0kg, much lower than the world's average level of 4.4kg. Its biggest tissue category is toilet tissue, which is common to most urban households, hotels, restaurants, offices and factories, and contributes 68% of the total sales of the country's tissue sector. However, toilet tissue's penetration in rural regions is still relatively low and concentrated among value brands.

For Saigon Paper, such market dynamics offer up a lot of untapped potential, and it is one of the few companies in the country making investments. Already one of the top three tissue paper manufacturers across the premium, mainstream and value segments, it has two brands: Bless You and Saigon. Cao says it is the biggest player in Vietnam's rural areas and the second largest player in its urban regions. In 2016 and onwards, the company is targeting the number one position throughout the country.

He established the business in 1997, producing just 1,500tpy. The local and private tissue producer is now 92% owned by the founder and the new shareholder who acquired a 33.8% stake in the company from Japanese company Daio Paper in 2013. In April 2015, it completed a USD\$116m tissue and paper packaging expansion at its My Xuan mill, adding 28,080tpy of facial, tissue, napkin, toilet paper and jumbo roll capacity as well as 171,600tpy of industrial paper capacity.

It now has two fully integrated paper mills at My Xuan mill. Located in My Xuan A Industrial Park, Ba Ria, Vung Tau Province, the sites house six tissue paper machines, five industrial paper machines and four pulp machines supplied by Andritz, Black Clawson and

Kadant, and the company also sites suppliers EIMCO waste water treatment system and Chan Li converting lines. Total tissue production capacity is 40,560tpy: "We're one of the main tissue companies here that use modern technology and produce high quality products," he adds.

As recently as 1985, he says there was no demand for tissue products in northern Vietnam. "Rural areas even now, but especially 30 years ago, had very little demand or use of tissue products. Now we're seeing the average growth in demand at around 20% in the past few years and we expect that to continue."

***"Saigon Paper has built its own waste paper collection and purchasing system which comprises four depots with collection capability of 500tpd. Its EIMCO waste water treatment system is one of the largest and most advanced waste water treatment systems among paper manufacturers in Vietnam."***

The company's market strategy is to produce consistently high quality products. Target markets include affluent consumers to premium, mainstream, as well as value markets in the domestic and international markets. Cao says demand for all three grades is increasing sharply and more domestic production is needed.

Only 8-9% is produced for private label tissue products as he says otherwise there would be a clash with its own brands. "Brands dominate," he adds.

A commitment to environmentally-friendly products is a key strategy as the company concentrates on sustainable development. Recycled waste paper accounts for more than 90% of tissue production and the business is also FSC-certified: "We believe when the awareness of hygiene and the environment are rising and our products will increasingly be chosen by domestic consumers. Tissue demand here relates to income, so those on a lower income have no interest in environmentally-friendly products because their main concern is cost. However, this strategy will lead us to success in the export

markets which are often interested in environmentally-friendly products."

To ensure a sufficient supply of quality recycled pulp, Saigon Paper has built its own waste paper collection and purchasing system which comprises four depots with collection capability of 500tpd. Its EIMCO waste water treatment system is one of the largest and most advanced waste water treatment systems among paper manufacturers in Vietnam.

Some 70% of the company's production increase between 2014 and 2019 is targeted at the domestic market, yet he adds that demand there still isn't level with what the company is able to produce. In the last five years, domestic demand increased by near to 20%. "Among the Asian developing countries, Vietnam has the highest urbanisation rate at 3.1%, yet it has one of the lowest tissue consumption per capita. As Vietnam's society becomes more urbanised, hygiene awareness is expected to increase, and so we expect an increase in tissue usage and demand."

He adds that a local macro factor driving tissue is the expanding market share created as a result of smaller paper manufacturers that are being shut down due to regulatory and environmental factors. Cao mentions this twice during our interview, and adds it is a result of the impact of stricter environmental and regulatory restrictions which has led to a reduction of total paper capacity in Vietnam, coupled with the continual rise in tissue demand which he says has given the company a great opportunity. He adds that notwithstanding the potential increase in demand and shortage of supply, the government's strict policies would result in the closure of more than 700 small companies across the paper industry. "The government is planning to consolidate the market by withdrawing licenses of small producers and controlling the issuance of new licenses in accordance to their paper sector plan (till 2025)," he says. "The government also has in place targets for designed capacity installed and production volume milestones for 2015, 2020 and 2025."

"As the government strengthens its environmental regulations, small companies must either invest heavily to upgrade their production facilities or shut down their businesses. Only the three top companies – that have the brands, scale and high quality production facilities and that comply



By Tissue World magazine editor Helen Morris



with regulatory standards – can take advantage of Vietnam's potential."

Some 30% of capacity is for export to over 23 countries including America and Japan. Despite Vietnam sharing its borders with China, Laos and Cambodia, the main potential for export isn't these countries. He adds that the company also isn't seeing any manufacturers in Vietnam from China, and that there is little exported tissue product from China.

Growth in exports is driven by the formation of trade blocs such as the ASEAN Economic Community, an initiative to combine the 10 ASEAN

countries into a single economic community, which boosts the country's exports and economy, and the Trans-Pacific Partnership (TPP) agreement. Cao says the reduction of international trade barriers via the TPP is expected to boost demand for Saigon Paper's products in the international market. However, he adds that export will continue to make up 30% of its capacity and that it isn't looking to substantially increase it.

For now, the outlook is very much domestic. Increasing disposable income, rapid urbanisation, government prioritisation and a rising awareness of hygiene are all increasing demand for

tissue. With tissue consumption at less than a quarter of the world's average, continued economic development and increased purchasing power means that consumers in rural provinces are more and more likely to upgrade to higher grade tissue paper.

Cao sums up the main challenges and opportunities: ruralisation – Saigon Paper is the market leader; small company closures are an opportunity; the development of the economy; rapid urbanisation; income becoming more stable; greater environment awareness; short and long-term return on key investments.

## FACTFILE: Saigon Paper

**Founder and chief executive:** Cao Tien Vi

**Certifications:** FSC, ISO 50001:2011, ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007

**Products:** Facial tissues, napkins, toilet tissue, kitchen roll, mini jumbo rolls and jumbo rolls under its two main brands as well as seven sub-brands (Feel Me and Hold Me under the Bless You brand; Zenni, Extra, Inno, Eco and Eco++ under the Saigon brand), unbranded mini jumbo

rolls which are economical, convenient and best suited for washrooms in places with medium to high traffic, plus private label tissue products for domestic and overseas customers as well as tissue jumbo rolls for export.

**Production:** two paper mills at My Xuan A Industrial Park, Tan Thanh District, Ba Ria-Vung Tau.

**Production capacity:** tissue paper is 40,560tpy; industrial paper is 232,440tpy.

**Infrastructure:** Six self-contained modern tissue production lines and five modern industrial paper production lines with advanced paper manufacturing technology and supporting infrastructure imported from the US and Europe: Andritz, Black Clawson, Kadant and EIMCO. A waste water treatment system which is the largest and most modern in the paper industry in Vietnam (with a capacity of 17,000m<sup>3</sup>/day).



# Song Duong: on the brink of privatisation and expansion, TWM talks to director Nguyen Van Quan to get the latest on Vietnam's tissue potential

Director Nguyen Van Quan explains the fundamental shift taking place in consumers' tissue expectations across Vietnam.

## TWM/1 What are your investment plans for the future?

"Years of investment by our joint shareholders Vietnam Paper Corporation (Vinapaco) has continued to strengthen the tissue making facilities at Song Duong tissue mill. While there are no plans to invest at the moment with Vinapaco, we will be privatised next year and there will be investment plans then.

"We started tissue production 10 years ago and we now make 10,000tpy, 80% of which is for toilet tissue and the remaining napkin. Facial tissue and towel are less important. After privatisation, we will be focusing on reinforcing our ability in these sectors."

## TWM/2 Will export remain a key business strategy for you?

"Initially we exported a lot of jumbo rolls as we didn't have the tissue demand in Vietnam for what we were producing. We exported heavily to Taiwan, Japan and Australia in particular. However, we now just export between just 5-10%. We've reduced the amount we export as we are focusing more on the opportunities that are being thrown our way by the domestic market."

## TWM/3 How is the domestic market in Vietnam?

"We're located 10km from Hanoi, so our market is in northern Vietnam and we produce tissue products mainly for cities because the price and quality is there. The tissue market is increasing every year by 15-20%. The main reasons why we are seeing this is because of how

well Vietnam's economy is doing. Also, years ago there was simply no tissue in Vietnam, so the market potential is now very large as urbanisation continues to happen very rapidly.

"In the past few years we haven't been able to increase our production capacity in response to increase in tissue consumption in Vietnam, which has been a pity. But when we become privatised next year we will focus on the domestic market and also export even wider afield.

"We are also investing more in converting to increase the quality of the product but in the near future we won't be investing in a new tissue line."

## TWM/4 What domestic tissue-buying trends are you seeing?

"There is an increased demand for products of high quality – the Vietnamese consumer wants a much higher quality than previously. As our paper machine can already produce high quality tissue jumbo rolls, next year we want to invest in another converting line to increase converting quality and capacity to meet an increase in demand for products of high quality."

## TWM/5 What are your main challenges?

"One of the main challenges is the presence of fake tissue products and other chaotic competition in the market.

Price increases are also an issue for us as we can't absorb the increases that come from our raw material and energy suppliers. So the profit

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margin decreases! Competition here is definitely stronger because of it. We are also seeing paper companies producing printed paper products move into tissue production, which is adding to the competition.

"While not so many tissue products are here yet from China in the Vietnam market, in the near future we expect to have increased competition from China."

*"Initially we exported a lot of jumbo rolls as we didn't have the tissue demand in Vietnam for what we were producing. We exported heavily to Taiwan, Japan and Australia in particular. However, we now just export between just 5-10%. We've reduced the amount we export as we are focusing more on the opportunities that are being thrown our way by the domestic market."*

## TWM/6 And the main opportunities?

"There are many opportunities here because the market is increasing every year. We have a paper machine so we can produce high quality tissue and compete on quality. We also want to export to more countries. We want to export jumbo tissue and some finished products also, although there will always be a disadvantage doing that because of transport costs.

"In terms of the domestic market opportunities, we are also seeing a 10-15% growth in napkin products."

*"The tissue market is increasing every year by 15-20%. The main reasons why we are seeing this is because of how well Vietnam's economy is doing. Also, years ago there was simply no tissue in Vietnam, so the market potential is now very large as urbanisation continues to happen very rapidly."*



# A tes souhaits!\*

*Now living and working in London after 11 years in France, Rebecca was in New York when she discovered the one thing the much-loved multi-tasking kitchen roll is not great for.*



## TWM/1. What tissue products do you use?

"I use toilet paper, kitchen towels (I swear by them), boxed tissues for around the house and pocket tissues for my handbag. I occasionally buy cleaning wipes but this is very rare as I prefer to clean with cleaning cloths and sponges."

## TWM/2. Why do you use these products in particular?

"It's much nicer to have boxed tissues around the house than toilet rolls lying around! As I need to blow my nose fairly regularly it's more convenient to just reach and get a tissue than go to the bathroom. Kitchen roll is not an essential but it is so practical and can be used for different purposes that I make sure that I never run out of it, in fact I'm more likely to

run out of loo roll than kitchen roll, in which case the kitchen roll has yet another use.

"I have black work surfaces so if I wipe down the surface and don't dry them then you can see the water marks so I use the kitchen roll to dry the work surfaces. It's also great to dry the hob especially induction hobs after cleaning.

"There is nothing worse than needing a tissue and not having any so I make sure that I always have some in my bag which also comes in handy when going to the loo in public places!"

## TWM/3. What are your buying preferences?

"I'm guilty of liking the branded stuff in this area I'm afraid! Andrex is my favourite for toilet roll, who can ignore those gorgeous little puppies! Consequently I buy the packs of nine Puppies on a Roll in white and if there aren't any left then I'll buy another Andrex product.

"I buy Kleenex pocket tissues in multi-packs to make sure that I don't run out because buying them individually is expensive. I buy Kleenex man-size tissues (in a flat square box) for the bathroom and Velvet tissues for the bedroom and lounge in colourful square boxes.

"I buy everything from Sainsburys which is where I do my grocery shopping. I can't recall the brand that I buy for kitchen towels but I do like the ones where you can choose the size, they're perforated but I don't find them much in Sainsburys. I like to go for the absorbent ones but also like the ones with a pattern."

## TWM/4. Is it important for you to buy environmentally friendly tissue products?

"I'm embarrassed to admit that I have no idea whether the products I buy are environmentally-friendly. I don't go for cheap and cheerful as I buy the brand stuff but I never check the environmental aspect which is probably not good! I must admit though that the recycled products often look a bit greyish and not as comfortable looking as my puppies on a roll. Let me reassure you that I do dispose of the packages in an environmentally friendly way."

## TWM/5. What differences have you seen when you've travelled out of your home country?

"I lived in France for about 11 years and the first thing that I noticed was how tiny their loo rolls are! They're about half the size as the ones in the UK and they sell a lot of pink ones. I was in New York recently renting an Airbnb apartment; the guy left us one loo roll, one dishwasher tablet, no tea towels and about 10 kitchen rolls with which we had to dry the dishes.

"Now I love kitchen roll but one thing it's not good for is drying the dishes!"

\*'Bless you' in French

"I'm embarrassed to admit that I have no idea whether the products I buy are environmentally-friendly. I don't go for cheap and cheerful as I buy the brand stuff but I never check the environmental aspect which is probably not good! I must admit though that the recycled products often look a bit greyish and not as comfortable looking as my puppies on a roll."

# PIX Pulp indices 24.11.2015

## NBSK pulp Europe

**T**he consumption of softwood pulp was down and inventories up in October in Europe, compared to both September 2015 and October 2014, as reported by UTIPULP. The narrow price gap between softwood and hardwood pulp may be already helping NBSK supply/demand balance globally but much of that support is not seen in Europe, at least not towards the end of November. Global statistics are not available at the time of writing these notes but suppliers of softwood pulp report in most cases low inventories.

On the supply side, the re-start of the bigger recovery boiler at Pöls is approaching. Gradual price erosion seen over late October and the first week of November, coinciding with the strengthening of the US dollar, came to an end, at least temporarily in week 47. Our PIX NBSK index value in dollars came up this time by 12 cents, or by 0.01%, and closed at 819.31 USD/tonne.

US dollar strengthened against the Euro by 0.5% (weekly average). With the strengthening of the US dollar against the Euro, the benchmark value in euro, converted from the dollar-value index with the average exchange rate of last week, headed again clearly higher, this time by 3.82 euros, or by 0.50%, and the PIX NBSK index value in euro-terms ended at 766.64 EUR/tonne, only 1.5 euros lower than in the beginning of the year.

## BHK pulp Europe

The hardwood pulp numbers were again not available from UTIPULP when updating these notes. The weakness of the Chinese market radiates also elsewhere in the world, including Europe. On the supply side, the list of production disturbances is long and some of the stoppages appear to last longer than first expected. With the El Niño phenomenon likely to strengthen further in 2016, the climate-related disturbances risk continuing into next year. The total loss of over 300,000 tonnes mentioned in the press appears to be correct. It does include, however, also normal annual maintenance downtime, i.e. tonnage which would in any case not have been produced during the fourth quarter, even if the precise timing might have been different.

With the near-term views of the producers and consumers quite far apart, prices continue to ease lower. Our BHKP benchmark in Europe eased lower again, slightly more than NBSKP, by 1.38 dollars per tonne, or by 0.17%, and closed at 801.61 USD/tonne. In week 47, the value of Euro depreciated by 0.5% against the US dollar (weekly average). When converting the USD-value of the BHKP index into the



weakened Euro, the PIX BHKP index in Euro moved up by 2.35 euro, or by 0.31%, and closed at 750.08 EUR/tonne, up by 140 euros from early January.

## Paper industry

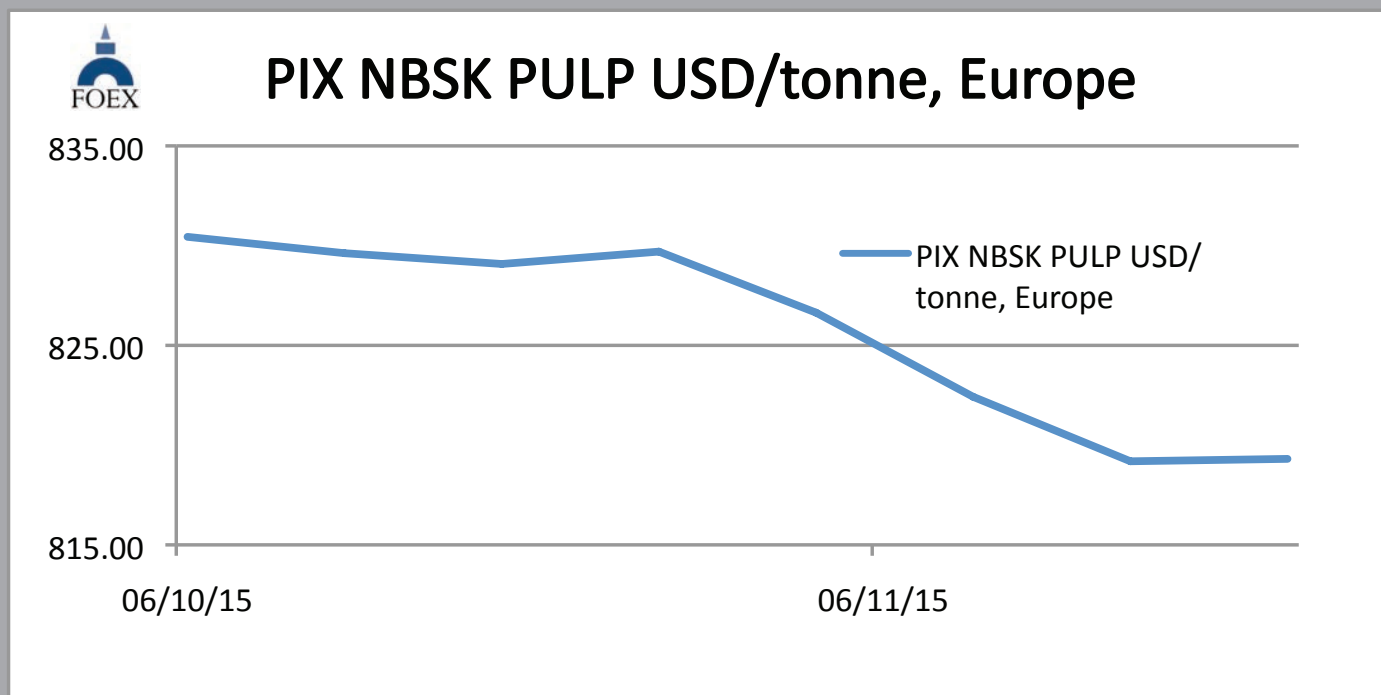
The first October data from the US is mixed. Corrugated box shipments were up, after adjustment to shipping days, by 1.6%, y-o-y, and inventories fell, but remained above the longer-term average. Compared to the beginning of the year, packaging sales have, however, slowed down in relation to the growing capacity. The Q3 financial results were weaker and some production downtime is being taken in November. Uncoated free sheet shipments were down in absolute terms but also marginally up, when taking the number of shipping days into account. Kraft papers were very strong with an over 7% increase in shipments over October 2014.

Box board data had been clearly weaker than containerboard data over the first 9 months of the year but October numbers were quite positive, especially for CUK, but SBS and Folding Boxboard numbers were positive as well.

In Europe, October paper and board data has not been published yet. Order books in graphic papers were, on average, quite good during the month but have weakened in most grades in November. The same applies to tissue where the third quarter and still October operating rates were quite good but some weakening has been detected in November. And tissue is typically less seasonal than most other grades of paper. In packaging, shipment volumes remain pretty good but the already seen capacity increases, and especially those approaching, cause concern. The prices of recycled paper based grades have slipped lower over the past couple of weeks.



## Source: FOEX Indexes



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

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

- by banks or exchanges that offer price risk management services for pulp buyers and sellers
- by buyers and sellers of pulp or paper in their normal supply contracts
- companies who want to employ an independent market reference price for internal pricing (e.g. pulp mill – paper/paperboard mill, paperboard mill – box plant) through licensing the commercial use from FOEX.

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

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

**Subscription** - For access to the latest PIX Pulp and Paper index values and commentary, please subscribe to the "PIX Pulp and Paper Service" via the following link [www.foex.fi/subscribe/](http://www.foex.fi/subscribe/)

# Project Survey

Overcapacity and the mushrooming of new tissue projects, in particular in markets such as Brazil and Mexico, along with a lot of activity in many of the 'CIVETS' emerging economies: Colombia, Indonesia, Vietnam, Egypt, Turkey and South Africa, have proved key in

the outcome of this year's annual Project Survey. Indeed two of TWM's recent Country Report focuses - this issue's Vietnam report and the November/December 2015's report on South Africa – have provided substantial insight into the potential these markets hold for the world's tissue industry. And as ever,

COUNTRY	COMPANY MILL	INVESTMENT	PM NO	NEW / REBUILD	START-UP DATE	CAPACITY CHANGE (tonnes/yr)	PM TRIM (m)
Abu Dhabi	ADNPM	NA	NA	New	2015	30.000	2.8
Algeria	Faderco	Setif	NA	New	2015	30.000	2.6
Argentina	Celulosa Argentina	NA	1	New	2015	30.000	2.8
Argentina	Celupaper	Papelera Nicaragua	3	New	2016	13.600	2.7
Asia	Confidential	Confidential	1	New	2018	60.000	5.6
Asia	Confidential	Confidential	2	New	2018	60.000	5.6
Asia	Confidential	Confidential	2	New	2018	60.000	5.6
Asia	Confidential	Confidential		New	2017	60.000	5.6
Asia	Confidential	Confidential		New	2017	60.000	5.6
Asia	Confidential	Confidential	2	New	2017	60.000	5.6
Asia	Confidential	Confidential		New	2016	60.000	5.6
Asia	Confidential	Confidential		New	2016	60.000	5.6
Asia	Confidential	Confidential	1	New	2016	50tpd	2.8
Australia	Confidential	Confidential	1	Rebuild	2015	26.000.	2.7
Australia	Confidential	Confidential	1	Rebuild	2016	NA	NA
Brazil	Cia. Canoinhas	NA	2	New	2015	13000	1.9
Brazil	Cia. Canoinhas	NA	4	Rebuild	2016	34.500.	2.8
Brazil	Carvalho	NA	1	Rebuild	2015	NA	2.8
Brazil	Claramax	NA	1	New	2015	19.350	2.8
Brazil	Confidential	NA		New	2016	45.600	2.8
Brazil	Confidential	NA		New	2016	70.000	5.6
Brazil	Confidential	NA	4	New	2016	28.800	2.8
Brazil	Copapa	NA	4	New	2016	27.860	2.8
Brazil	CVG	NA	2	Rebuild	2015	18.500	2.3
Brazil	CVG	NA	5	Rebuild	2016	27.800	2.8
Brazil	Manikraft	NA	3	Rebuild	2016	18.000	2.3
Brazil	Mili	NA	8	New	2016	38.300	2.8
Brazil	Sepac	NA	6	New	2016	35.000	2.8
Bulgaria	Claire's	NA	2	New	2015	75tpd	2.8
Chile	Forestal y Papelera Concepcion	Concepcion	1	New	2015	70.000	5.6
China	Baodingshi Gangxing Paper	NA	4	New	2015	17.000.	2.8
China	Confidential	NA	NA	New	2016	250tpd	5.6
China	Confidential	NA	1	New	2016	17.000.	2.8
China	Confidential	NA	2	New	2016	17.000.	2.8
China	C&S Paper Co	Chengdu (Sichuan)	5	New	2015	35.000	3.5
China	Guangdong Shaoneng	Shao Guan	1	New	2015	25.000	2.8
China	Hebei Xuesong Paper	Boading	2	New	2016	22.000	2.8
China	Hebei Yihoucheng	Baoding Hebei	2	New	2015	25.000	2.8
China	Hengan Chongqing	Chongqing	23	New	2016	60.000	5.6
China	Hengan Chongqing	Chongqing	24	New	2016	60.000	5.6
China	Hengan Wuha Paper Co	Wuhu, Anhui	20	New	2016	60.000	5.6



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a country's demographics – rapid urbanisation, new global trade routes or population growth – are key indicators for tissue's potential to thrive. Responses to TWM's 2015-2016 Project Survey chart new capacity being added, ordered or in final planning stages. All the figures in the survey are based

on the best information provided. This has included TWM's own extensive research, which has included relying on reliable responses from companies asked to detail their present and future developments.

## PM SPEED SUPPLIER COMMENTS

2000	Valmet	Advantage NTT 100
1800	Valmet	Advantage DCT 100+
1.800.	Voith	New Voith VTM1 with NipcoFlex T shoe press & Steel Yankee
1000	Toscotec	MODULO
2000	Toscotec	AHEAD-2.0L PRODERGY
2000	Toscotec	AHEAD-2.0L PRODERGY
2000	Toscotec	AHEAD-2.0L PRODERGY
2000	Toscotec	AHEAD-2.0L PRODERGY
2000	Toscotec	AHEAD-2.0L PRODERGY
2000	Toscotec	AHEAD-2.0L PRODERGY
2000	Toscotec	AHEAD-2.0L PRODERGY
1200	Recard	Crescent former
1800	PMP	Tissue Machine rebuild (TM Conversion into CF - Intelli-Jet V® Hydraulic Headbox, Intelli-Former® CF)
NA	PMP	Phoenix Concept™ Rebuild, (2) TMs relocation and a new press frame
1100	Hergen	New Crescent Former section and felt section SMART ECO
2000	Hergen	New Complete Paper Machine AVANTIS 16
1600	Hergen	PM upgrade into new Crescent Former
1200	Hergen	New Crescent Former Smart Eco
2200	Hergen	New Crescent Former Avantis 18
2000	Voith	Voith VTM4 with NipcoFlex T shoe press & Steel Yankee
1600	Hergen	Complete tissue machine and stock preparation
1600	Hergen	Complete paper machine EVO 12
1500	Hergen	PM upgrade
1600	Hergen	New Crescent Former section EVO 12
1100	Hergen	New Crescent Former and felt section EVO 12 + New Gas Hood
2200	Hergen	New Complete Paper Machine AVANTIS 18
2000	Voith	Voith VTM2 with NipcoFlex T shoe press & Steel Yankee
1200	Recard	Crescent former
2000	Valmet	Advantage NTT 200
1000	Kawano Zoki	BF1000
2000	A.Celli	
1000	Kawano Zoki	BF1000S
1000	Kawano Zoki	BF1000S
1650	Toscotec	AHEAD-1.5M
1.600	Andritz	PrimeLineCOMPACT II (Steel Yankee)
1200	PMP	Intelli-Tissue® 1200 EcoEc
1600	Andritz	PrimeLineCOMPACT II (Steel Yankee)
2000	Andritz	PrimeLineTM W8 (Steel Yankee)
2000	Andritz	PrimeLineTM W8 (Steel Yankee)
1.900.	Valmet	Advantage DCT 200

Many of the projects are subject to revision as, in many cases, information was not provided because it was deemed commercially sensitive or subject to financial uncertainty.

*In the past 12 months the global tissue industry has seen another substantial amount of new capacity announced or coming on stream, with 126 projects compared to last year's 146 in the pipe line, of which 35 announced projects are based in China compared to last year's 52 Chinese projects.*

It's also the case that a distinctive feature of this time in the cyclical development of tissue production is marked by the timely closure of old facilities to make way for the new.

In some cases, it is evident that delayed start-ups have meant projects have been repeated from last year's survey; some of the 'new' capacity announced this year in fact includes some of last year's estimate.

A number of companies also issued projections for impressive tonnes per day figures, which will add, in the terms of the survey, unknown capacity.

With that in mind, in the past 12 months the global tissue industry has seen another substantial amount of new capacity announced or coming on stream, with 126 projects compared to last year's 146 in the

# Project Survey

pipe line, of which 35 announced projects are based in China compared to last year's 52 Chinese projects.

As with last year, the scale of these machines is also significant – a large proportion of these new start-up machines have widths

of 5.6m. Outside of China, more and more of this growth is still focused on or from countries such as Brazil and Turkey.

Overcapacity in many markets has resulted in a slowdown of new project announcements and it is still clearly an uncertain

COUNTRY	COMPANY MILL	INVESTMENT	PM NO	NEW / REBUILD	START-UP DATE	CAPACITY CHANGE (tonnes/yr)	PM TRIM (m)
China	Lee & Man	Chongqing	4	New	2015	60.000	5.6
China	Lee & Man	NA	5	New	2016	60.000	5.6
China	Lee & Man	NA	6	New	2016	60.000	5.6
China	Lee & Man	NA	3	New	2015	70.000	5.6
China	Lee & Man	NA	7	New	2017	70.000	5.6
China	Lee & Man	NA	8	New	2017	70.000	5.6
China	Liuzhou Liangimanzhen Paper Product Co	Guanxi	1	New	2015	21.000	2.85
China	Liuzhou Liangimanzhen Paper Product Co	Guanxi	2	New	2015	21.000	2.85
China	Shandong Dongshun Paper	NA	17	New	2015	20.000	2.9
China	Shandong Dongshun Paper	NA	18	New	2015	20.000	2.9
China	Shandong Dongshun Paper	NA	2	New	2016	18.000	2.9
China	Shandong Dongshun Paper	NA	1	New	2015	18.000	2.9
China	Sichuan Shubang Industrial	NA	1	New	2016	17.000	2.8
China	Shandong Hengan Paper Co	Weifang, Shandong	21	New	2016	60.000	5.6
China	Sun Paper	Yanzhou, Shandong	28	New	2015	60.000	5.6
China	Vinda Paper	Deyang (Sichuan)	1	New	2015	32.000	3.4
China	Vinda Paper	Jiangmen, Guandong	10	New	2016	32.000	3.4
China	Vinda Paper	Jiangmen, Guandong	9	New	2016	32.000	3.4
China	Vinda Paper	Shandong	4	New	2016	32.000	3.4
China	Vinda Paper	Shandong	3	New	2015	32.000	3.4
China	YFY Guangdong DingFung Pulp & Paper CO	DingFung	1	New	2015	27.500	2.8
China	YFY Guangdong DingFung Pulp & Paper CO	DingFung	2	New	2015	27.500	2.8
China	Yuen Foong Yu	Ching-Shui (Taiwan)	9	New	2015	40.000	3.6
China	Zhejiang Jingxing	Pinghu, Zhejiang	2	New	2015	25.000	2.8
Confidential	Confidential	NA	1	New	2015	50tpd	2.2
Confidential	Confidential	NA	NA	NA	2017	110tpd	2.8
Egypt	Confidential	NA	1	New	2016	78tpd	2.8
El Salvador	Confidential	NA	NA	Rebuild	2015	65tpd	2.8
Europe	Confidential	Confidential		New	2017	35.000	2.8
Europe	Confidential	NA	NA	New	2016	145tpd	2.8
France	Wepa Lille	Bousbecque	18	New	2015	35,000	2.8
Germany	Wepa	Giershagen	19	New	2015	35.000	2.7
Indonesia	PT Suparma	Surabaya	9	New	2015	25.000	2.8
Indonesia	Sukoanyar	NA	1	NA	NA	25.000	2.8
Italy	Cartiera della Basilica	Lugliano	NA	New	2015	29.000	2.8
Italy	Papergroup	NA	3	New	2015	90tpd	3.2
Japan	Confidential	NA	1	New	2015	25.000	2.2
Japan	Confidential	NA	2	New	2016	25.000	2.2
Japan	Daio Paper	NA	3	New	2015	36.000	3.6
Japan	Shin-Ei Paper	NA	1	New	2015	25.000	2.8
Japan	Shin-Ei Paper	NA	2	New	2015	25.000	2.8



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market with a mixed picture of start-ups and closures across the world.

As this issue's MarketIssues explains, the US market's tissue consumption is now in a dynamic growth phase following a recent

slow growth, particularly in the Away-from-Home market where consumption grew by 3.5-4.0% in January-September 2015. We have seen dynamic merger and acquisition activity in the USA from the likes of tissue giants SCA and Sofidel as well as Resolute Forest Products' purchase of Atlas Paper. The start

of 2016 is also expecting to see a raft of new start-ups in the country, including tissue machines at von Drehle's Natchez site, First Quality Tissue as well as St. Croix Tissue.

Chinese tissue consumption has shown an average annual growth trend of 8% over the past 12 years, but the recent slowdown of the Chinese economy has slightly impacted this. For the country's tissue mills, the fierce price war continues as many tissue margins take a battering in the face of the country's slowing demand growth and severe overcapacity.

*We have seen dynamic merger and acquisition activity in the USA from the likes of tissue giants SCA and Sofidel as well as Resolute Forest Products' purchase of Atlas Paper. The start of 2016 is also expecting to see a raft of new start-ups in the country, including tissue machines at von Drehle's Natchez site, First Quality Tissue as well as St. Croix Tissue.*

A TWM source explained that the mills adding capacity under these circumstances are doing it for the long run; that these mills are expecting to see an increase in tissue demand in China in the near future.

The global tissue market also continues to see more and more companies from the print and paper industry diversify into tissue, keeping our sector forever on its toes.

PM SPEED (m/min)	SUPPLIER	COMMENTS
2000	Valmet	Advantage DCT 200HS with ViscoNip press
2000	Valmet	Advantage DCT 200HS with ViscoNip press
2000	Valmet	Advantage DCT 200HS with ViscoNip press
2000	Voith	Voith VTM4 with NipcoFlex T shoe press, Steel Yankee & Steam Hood
2000	Voith	Voith VTM4 with NipcoFlex T shoe press, Steel Yankee & Steam Hood
2000	Voith	Voith VTM4 with NipcoFlex T shoe press, Steel Yankee & Steam Hood
1500	Toscotec	MODULO-PLUS
1500	Toscotec	MODULO-PLUS
1300	Kawano Zoki	DCT60
1300	Kawano Zoki	DCT60
450	Kawano Zoki	BF1200TW - Heavy weight towel
450	Kawano Zoki	BF1200TW - Heavy weight towel
1000	Kawano Zoki	BF1000
1.900	Valmet	Advantage DCT 200
2.000	Andritz	PrimeLineST W8 (Steel Yankee)
1500	Toscotec	AHEAD-1.5M
1600	Toscotec	AHEAD-2.0M
1600	Toscotec	AHEAD-2.0M
1500	Toscotec	AHEAD-1.5M
1500	Toscotec	AHEAD-1.5M
1600	PMP	Intelli-Tissue® 1600 Advanced
1600	PMP	Intelli-Tissue® 1600 Advanced
1700	Toscotec	AHEAD-1.5M
1.900	Andritz	PrimeLineST C8 (Steel Yankee)
550...	Recard	
1800....	A.Celli	
1500	Recard	Crescent former
1500	A.Celli	
2000	Toscotec	Confidential
2000	Recard	Crescent former
2000	Toscotec	AHEAD-2.0S
2000	Toscotec	AHEAD-2.0S
1.6	Valmet	Advantage DCT 100+
1600	Voith	Recently started up, VTM1 with NipcoFlex T shoe press, Steel Yankee and
1500	Toscotec	MODULO-PLUS
1300	Recard	Crescent former
300	Kawano Zoki	BF12-Heavy weight towel
300	Kawano Zoki	BF15-Heavy weight towel
2000	Kawano Zoki	DCT135 HS 15ft SYD
1800	Andritz	PrimeLineCOMPACT V (Steel Yankee)
1800	Andritz	PrimeLineCOMPACT V (Steel Yankee)

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COUNTRY	COMPANY MILL	INVESTMENT	PM NO	NEW / REBUILD	START-UP DATE	CAPACITY CHANGE (tonnes/yr)	PM TRIM (m)
Japan	Taiyo Sigyo	NA	2	New	2015	22.000	1.9
Lithuania	Grigiskes	Vilnius	6	New	2015	35.000.	2.7
Mexico	CMPC	NA		New	2015	60.000	5.6
Mexico	Fabricas de Papel Potosi	San Luis de Potosi	3	New	2015	80tpd	2.8
Mexico	SCA	NA	NA	Rebuild	2015	NA	3.4
Netherlands	Van Houtum	Swalmen	4	Rebuild	2015	NA	2.6
Peru	Papelera Reyes	NA	3	Rebuild	2015	15.700	2.3
Peru	Papelera Reyes	NA	4	New	2016	19.600	2.8
Poland	Beskidy	NA	1	New	2015	18.250	2.8
Poland	Fabryka Papieru i Tektury Beskidy	NA	1	New	2015	18.250	2.8
Poland	GZP	NA	1	Rebuild	2015	19.500	2.8
Poland	ICT Poland	Kostrzyn		New	2015	70.000	5.6
Portugal	AMS-BR Star Paper	Castelo Branco	2	New	2015	33.000.	2.7
Portugal	Fortissue	Viana do Castelo	1	New	2015	42.000	2.8
Portugal	Paper Prime	Vila Velha de Rodao		New	2016	42.000.	2.7
Portugal	Renova	Torres Novas		New	2016	30.000	2.8
Romania	Metalicplas	Dej	4	New	2015	34.000	2.8
Russia	Pulp Invest	Kazan	NA	New	2015	25.000	2.8
Russia	Syassky Pulp and Paper Mill	Leningrad	3	New	2016	40.000	4.2
Russia	Wolma/Paper Recycling	NA	1	New	2015	21.300	3.1
South Africa	Confidential	Confidential		New	2016	28.000.	2.7
South Africa	Confidential	Confidential	5	New	2016	27.700	2.7
Saudi Arabia	Confidential	NA	1	New	2016	122tpd	2.8
South Korea	KleanNara	NA	5	New	2015	35.000.	2.9
Spain	ISMA2000 S.L	Barcelona	NA	Rebuild	2016	6.000	NA
Spain	Ecofibras	Aranguren	5	Rebuild	2015	7.000	2.7
Taiwan	ChengLoong	NA	16	New	2015	45.000	3.7
Thailand	Wangpaper Co	Bangkok	3	New	2015	17.300.	2.5
Turkey	Aktül Kagit Üretim	Pamukova	NA	New	2016	60.000	5.6
Turkey	Essel	NA	2	New	2015	130tpd	3
Turkey	Hayat Kimya	NA	NA	New	2016	70.000	5.6
Turkey	Hayat Kimya	Mersin	NA	New	2015	70.000	5.6
Turkey	Ipek Kagit	Manisa	NA	New	2015	70.000	5.6
Turkey	Tezol	Mersin	NA	New	2015	30.000	2.6
Turkey	Tezol	NA	1	Rebuild	2016	85tpd	2.8
USA	Doubletree Paper Mills	NA	NA	New	2015	25.000	2.8
USA	First Quality Tissue	Anderson	NA	New	2016	70.000	5.6
USA	Orchids	NA	4	New	2015	91tpd	2.5.
USA	Resolute	Calhoun	NA	New	2017	60.000.	5.2.
USA	St. Croix Tissue Inc.	NA	NA	New	2015	NA	5.6
USA	St. Croix Tissue Inc.	NA	NA	New	2015	NA	5.6
USA	Von Drehle	Natchez	NA	New	2016	30.000.	5.6
Vietnam	Confidential	NA	1	New	2016	12.000.	2.8
Vietnam	Nittoku Vietnam	NA	1	New	2015	25.000.	3.2



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## PM SPEED SUPPLIER COMMENTS

PM SPEED (m/min)	SUPPLIER	COMMENTS
300	Kawano Zoki	BF12 - Heavy weight towel
1800	Toscotec	AHEAD-1.5S
1900	Valmet	Advantage DCT 200
1500	A.Celli	
NA	Voith	1x NipcoFlex T shoe press
1600	Toscotec	TT Reel-P
1100	Hergen	New Crescent Former section and felt section EVO 12
1700	Hergen	New Complete Paper Machine EVO 12
1100	Hergen	New Crescent Former Smairt Fit
1100	Hergen	New Crescent Former Smart Fit
1200	Hergen	New Crescent Former, felt section, double press section and reel section
NA	Valmet	Advantage DCT 200HS
1900	Toscotec	AHEAD-2.0S
1900	Toscotec	AHEAD-2.0S
2000	Toscotec	AHEAD-2.0S
2000	Valmet	Advantage NTT 100
1800	A.Celli	Turnkey project
1600	Andritz	PrimeLine COMPACT II (Steel Yankee)
1300	Toscotec	AHEAD-1.5M
1500	Hergen	New Crescent Former EVO
1500	Toscotec	MODULO-PLUS
1600	PMP	Intelli-Tissue® 1600 Advanced
2200	Papcel	New line for hygienic paper with hydraulic headbox and Crescent Former
2200	Voith	New Voith VTM2 with NipcoFlex T shoe press & Steel Yankee
NA	Toscotec	Dry End Major Rebuilding
1500	Toscotec	Rebuild in Crescent Former with AHEAD-1.5S
2000	Voith	New Voith VTM3 with NipcoFlex T shoe press, Steel Yankee & Steam Hood
1200	PMP	Intelli-Tissue® 1200 machine
2200	Valmet	Advantage DCT 200TS with ViscoNip press
1800	Recard	Crescent former
2200	Valmet	Advantage DCT 200TS with ViscoNip press
2200	Valmet	Advantage DCT 200TS with ViscoNip press
2200	Valmet	Advantage DCT 200TS with ViscoNip press
1800	Valmet	Advantage DCT 100+ with ViscoNip press
1600	Recard	Suction breast roll machine into crescent former
1600	Andritz	PrimeLineCOMPACT VI (Steel Yankee)
2000	Valmet	Advantage Thru-Air
1650	Recard	Crescent former
2000	Valmet	Advantage NTT 200
2000	Andritz	PrimeLineTM W8 (Steel Yankee)
2000	Andritz	PrimeLineTM W8 (Steel Yankee)
2000	Valmet	Advantage NTT 100
770	Kawano Zoki	BF-10EX
800	Kawano Zoki	BF12

**126** Projects in this year's survey

**7** US projects in this year's survey

**35** China-based projects in this year's survey

**69** Start-ups in 2015

### CAUTION:

All aggregates taken from the survey should be treated with some caution. While all care has been taken to publish comprehensive data, it is inevitable that projects will be missing or details incomplete. Many projects have also been delayed so start-up data used in the 2014 Project Survey has had to be repeated. We welcome your help to ensure as comprehensive a survey as possible at the end of 2016.

**Energy efficiencies, new technology start-ups, emerging market potential, product innovation, softness and strength, customer service ... TWM interviews the world's leading tissue machinery suppliers to bring you the latest knowledge in our 'Technical Theme: Paper Machine'.**

**TWM/1** What have been the most important technical developments made at your company during 2015 and what can we expect in 2016?

**William Rodrigues dos Santos, general manager, Hergen:**

"This year was quite challenging because we are about to finish the expansion of our workshop, which will enable us to manufacture Yankee Dryers with a diameter up to 7.320mm and up to 6.500mm face length.

"With this new facility we will concentrate the whole of the Yankee Dryer manufacturing into one site. We won't need to outsource any of the production steps so we will be able to give our customers a much more competitive price and a shorter delivery time.

"We also started-up our first zero recirculation Headbox, which has resulted in energy savings of up to 7% on approach flow systems (fan pumps).

"For 2016 we have scheduled the start-up of a new platform for our AVANTIS machine line, with new mechanical concepts that will enable a production speed up to 2.200m/min. This machine also features our new hydraulic pope reel equipped with a glue jet (change over system) that reduces the paper losses during the process. It is also equipped with a fully automatic system that collects the empty spools at the end of the pope reel and feeds them to primary arms; a core storage device completes the equipment.

"We will also finalise the development of new former and guide rolls with body built in a special grade stainless steel, and which will not require rubber cover or chrome layer. These rolls will maximise the clothing lifespan and will feature a better cleaning and machine availability."

**Carlos Gallo, product manager tissue, Voith:** "Energy costs are increasing worldwide and the requirements regarding environmental protection are becoming stricter. With the NipcoFlex T shoe press Voith has developed a technology that supports our customers in saving natural resources while

*"For 2016 we have scheduled the start-up of a new platform for our AVANTIS machine line, with new mechanical concepts that will enable a production speed up to 2.200m/min. "*

**William Rodrigues dos Santos**





considerably reducing energy costs and thus improving their competitiveness and market position. With the NipcoFlex T shoe press, up to 5% higher dryness can be achieved compared to a configuration of suction roll pressed against the Yankee or earlier shoe press generations. All this is possible without compromising paper quality.

"In addition, a production increase or energy savings up to 20% are feasible due to higher after press dryness. NipcoFlex T shoe presses are successfully in operation in numerous tissue mills around the world (Brazil, Germany, Poland, Indonesia, China, South Korea and Taiwan)."

**Shinji Goda, director and general manager of engineering, Kawano Zoki Co:** "The most important have been the machine developments for towel paper on our BestFormer Yankee paper machine. The forming section is designed so that both dry crepe and wet crepe can be made, along with the conventional tissue and toilet paper. This means the paper maker can comply with market requirement. We also hope this machine will be favoured in advanced countries. An increase in productivity as well as energy saving are our target from now on."

*"Structured tissue is an area we're deeply investigating (at the moment our TAD technology is available), while the consolidation of actual conventional technologies in Toscotec is focused on the tissue machine, from headbox to reel, on pressing and on drying section."*

**Davide Mainardi**

**Giovanni Deperis, project and sales manager, PAPCEL/ABK Groupe:** "We dealt with the following tasks: Hydraulic headbox with water dilution in diffuser, paper web threading – transfer roll, gooseneck, wire and felt control device, heating system of calender thermos-rolls, Emulsifier, glue preparation plant, washer – ash removing washers, pressure screen STU-122, self-cleaning teeth SCT-35 and the high-density cleaner SVS-30. Most of these tasks were connected with the technology for brown paper production."

**Davide Mainardi, sales and customer care director, Toscotec:** "Being in the tissue industry, a process industry, what is important is to continuously improve technologies so they are always "state of the art", especially in terms of process and low emissions impact. Structured tissue is an area we're deeply investigating (at the moment our TAD technology is available), while the consolidation of actual conventional technologies in Toscotec is focused on the tissue machine, from headbox to reel, on pressing and on drying section."

"Specifically we're working on the headbox; we're delivering the new generation TT SYD Yankee dryer, 22ft in diameter, with patented head insulation system, associated with several hood solutions and heat recovery systems. We have opened a new workshop this year to facilitate this and it has the most modern technology available for manufacturing the widest and larger SYD for the market completely in-house."

*"The most significant technology advances have been the wide acceptance of the new Advantage NTT process delivering textured tissue as well as plain tissue using less energy and less fibres."*

**Ingmar Andersson**

**Maja Mejsner, director business development and marketing, PMP:** "In spring we opened our sixth entity – PMPower, Italy – which is responsible for energy solutions for tissue and paper mills. Widening the product portfolio based on Intelli-Tissue® and Intelli-Technology® platforms is a natural progression for us and is beneficial for our clients (more solutions available as well as opportunities for technological development and optimisation) and for PMP (increased competitiveness).

"From now on, we are ready to support our business partners globally offering our own, new products within: Air Hood and Steam & Condensate Systems for Tissue Machines, Complete Closed Hoods and Steam & Condensate Systems for Paper Machines, Sheet Stabilising units and Pocket Ventilation for Paper Machines, Energy Recovery Systems, Mist Removal Systems, Wet Dust Removal Systems and Building Ventilation Systems. In addition, we are providing a variety of consulting services in the area of energy saving solutions, including new project ideas as well as advisory services connected to existing technological lines. We are focusing our efforts now to extend the reference base in this field."

**Ingmar Andersson, sales manager, Valmet Tissue Mills Business Unit:** "The most significant technology advances have been the wide acceptance of the new Advantage NTT process delivering textured tissue as well as plain tissue using less energy and less fibres. Our industry is quite conservative and it takes a long time to introduce such radically new processes and therefore it is interesting to note the acceptance now from the most important markets."

**Ivo Olibano, sales and customer service director, A.Celli Paper:** "This year we have dedicated lots of resources to completely renovating our tissue winder production line. An internal pilot machine was built and used for testing the new winder technology on high-bulk products, which were showcased during It's Tissue. For 2016, the plan is to concentrate on new Yankee technology."

**TWM/2** **What geographical areas are you looking to next year and why? What technical PM trends and challenges are you seeing in these regions?**

**Hergen's Rodrigues dos Santos:** "We plan to increase our actions in markets like Asia and the Middle East, offering a line of machines that feature great technology that results in an excellent cost per tonne ratio. These are regions with potential for small and medium size machines that have a design that allows flexibility of the drying concept (Yankee Dryer and Hood System)."

**Voith's Gallo:** "The average tissue consumption per capita is approximately five kg/a. That is why we see growth potential

*"The most important markets next year will be (except Russian speaking ones); China, India, the Near East, Turkey. In Asian regions, we generally feel a strong demand for tissue technology."*

**Giovanni Deperis**

for this technology – especially in Asia. We have built up skilled and qualified teams in Kunshan, China, in order to support our Asian customers with machinery, products and service."

**Kawanoe Zoki's Goda:** "Asia is our main area of work and where we predict that the demand for towel, kitchen paper, and other paper grades with higher value shall increase in south-east Asia. We hope that the requirement for higher quality – which is very much to do not only with tissue machines but also with converting machines – shall be raised."

**PAPCEL/ABK Groupe's Deperis:** "More than 98% of the PAPCEL Group's production is exported. In Central Europe, the Czech Republic, Slovakia, Poland, Romania, Bulgaria and Hungary are among the main markets; in Western Europe, France and Germany. In Eastern Europe, the main markets are in Belarus, Russia, Kazakhstan, and Uzbekistan. The group also operates in the Middle East (Saudi Arabia, Iran, UAE, and Kuwait), Asia (China), India, Indonesia, Vietnam, South Korea, Malaysia, Africa (Egypt and Tunisia), and the countries of Central and South America (Chile, Argentina, Peru, Ecuador, Venezuela, Brazil, and Mexico). We are developing our own sales and service centre in North America."

"The most important markets next year will be (except Russian speaking ones); China, India, the Near East, Turkey. In Asian regions, we generally feel a strong demand for tissue technology."

**Tosotec's Mainardi:** "We look at the worldwide market with high interest and continue to implement our sales and customer care structure in all regions. We look at the tissue industry as a challenge and an indicator of progress and civilisation. There's no country in the world where we're not present."

"Our presence in the mature Western European market has been consolidated and we are now considered the market leader in the region with several successful installation behind us. We have continued to invest in services and sales activities in China, the Far East and in North America; we believe these two markets can still be very important for us. China has just begun for us and we have achieved incredible results with several repeated order for tissue machines! The large market of North America continues to offer several opportunities both for new machines and for technological rebuilds."

"For China and Asia in general, the market is still dominated by conventional products even though new interest is growing for more soft and bulky tissue. It would be interesting to see the new trends and guide them to new targets. North America is a more sophisticated and "premium tissue" market where the quality that can offer structured tissue could be a driving factor. Although, like in Western Europe, the North American market is also affected by the need to improve the old machines previously installed."

**PMP's Mejsner:** "We're strengthening our position in the markets where we are well established – Asia, North America and Australia – through implementation of new tissue lines and sophisticated TM rebuilds. In addition, we are investigating new opportunities in Latin America as well as elsewhere. We have four TMs in our order book that we're planning to launch soon, two IntelliTissue®1600 Advanced lines for YFY in China, one Intelli-Tissue®1200 EcoEc for Wang Paper in Thailand and another TM in Africa. We are also involved in a series of dry end rebuilds in the USA."

"Our business philosophy is to keep the balance between markets which is why we're planning to be present worldwide, dividing the tissue market into two segments: emerging markets and mature/well-developed markets. Emerging markets are moving into two directions: newcomers that are interested in Crescent Former technology (simplicity of adaptation, lifting the business on a higher level) and well-established players that are interested to add "flavour" to their final products (better bulk, extra softness, etc). This second group is still a fan of Crescent Former technology but with premium extras added like multilayer hydraulic headboxes, large size suction rolls (diameter 1,400 mm). Mature/well-developed markets are driven by consumers who expect to get ultra-premium products and at the same time energy optimisation is important. As PMP, we're expecting more interest in TAD tissue machines there as well as tailored-made rebuilds that incorporate innovative products not available to competitors (we have been involved in such projects). In both emerging and mature markets sooner or later tissue producers are going to face overproduction so minimising operation costs will become crucial. To sum up, the tissue sector worldwide is pretty healthy and driven by quality and energy savings programmes."

*"Asia is our main area of work and where we predict that the demand for towel, kitchen paper, and other paper grades with higher value shall increase in south-east Asia. We hope that the requirement for higher quality – which is very much to do not only with tissue machines but also with converting machines – shall be raised."*

**Shinji Goda**

**Valmet's Andersson:** "Valmet is active in all geographical markets. It appears all markets are not in sync however; last year China was slow and it appears some major companies are now reviewing their strategies for further expansion. The Chinese market still concentrates on ordinary Dry Crepe technology. However, wide, high-speed machines with energy saving features such as the Advantage ViscoNip Press take a large share of the additional capacity installed."

"North America as previously is focused on high quality products, e.g. TAD and NTT, as these are highly appreciated by most consumers."

"Small-sized conventional Dry Crepe technology is mostly requested from the Asia Pacific and most of South America"



# ANNOUNCING TISSUE WORLD'S FOCUS REPORT FOR 2016



**Produced in conjunction with  
Tissue World New Orleans 2016**

Tissue World's authoritative report on North America and its tissue players and markets will offer you a unique and up-to-date insight into this dynamic region.

Multiple factors such as the impact of M&A activity, the challenging economic climate, private label and brands, changing consumer habits and new innovations are changing the dynamics of the tissue industry but also offering up opportunities.

Our report will help you keep abreast of these trends that are crucial to help your business make informed decisions in the years ahead.

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with the exception of Indonesia and Chile which are heading for medium – to large-sized machines.”

**A.Celli Paper’s Olibano:** “After many years, we’ve now witnessed Sub-Saharan Africa moving into the tissue manufacturing process. Until recently, only some converting operations were in place but now many have increased their capacity up to the point that a tissue machine investment has an ROI. The need for small machines (40-60tpd) is still present, but with all quality parameters satisfied. The challenge is to have small competitive tissue machines in the production line.

“Latin America, the MENA region and China are also areas that still present plenty of potential development.”

## TWM/3 **What developments have you made in terms of energy?**

**Hergen’s Rodrigues dos Santos:** “The tissue market is very energy-saving oriented and with that on our mind we have developed a set of solutions, where we can list:

- Zero recirculation Headbox, with energy savings up to 7% on fan pump power consumption
- Head insulation for Yankee Dryers which results on energy savings up to 5% (depending on Yankee size)
- Suction Press Rolls with optimised open area, which results on a higher dryness after press
- Holding boxes with proven efficiency of water removal, resulting on higher dryness (2% to 4%) before suction press roll
- New metal coating technologies, that features surface hardness higher than 55 HRC with a better thermal conductivity
- Smart disk technology – low intensity refining – with these refining plates with very thin blades we have achieved excellent refining results, increasing paper quality (formation and properties) and reducing the overall refining electrical load.”

**Voith’s Gallo:** “We have achieved a considerable higher energy efficiency with our NipcoFlex T shoe press.”

**Kawanoe Zoki’s Goda:** “It’s very important to realise energy savings in the operation of machines. We have developed

a system where the machine can be operated in the most efficient way as well as having the best energy savings.”

**PAPCEL/ABK Groupe’s Deperis:** “Our tissue machines are equipped with MDS high efficiency gas fired hood which can be combined with a Recovery Steam Generator (RSG) that recovers energy from the exhaust air and produces extra steam. In this way the specific gas consumption can be reduced by as much as 8.5%.”

**Toscotec’s Mainardi:** “Process optimisation, energy recovery, efficiency and installation of state of the art equipment such as the TT SAF system in approach flow circuit, new generation Steel Yankee Dryers and Yankee Hoods and air systems have all been our main focus in the last two years.

“Our R&D department was mainly focused on these areas where the combination of Toscotec and Milltech technologies – now completely integrated – has achieved overall energy consumption figures below 2,000kWh/t.

“Drying by the application of large diameter Steel Yankees and presses, in combination with steam or gas heated hood systems plus multiple stage heat recovery, can represent an attractive engineering solution for brand new installations or machine revamping.

*“After many years, we’ve now witnessed Sub-Saharan Africa moving into the tissue manufacturing process. Until recently, only some converting operations were in place but now many have increased their capacity up to the point that a tissue machine investment has an ROI.”*

**Ivo Olibano**

“After a process review in existing paper mills we also improved plant efficiency, achieving reduced kWh/t with similar overall absorbed Kw. With all these implementations we have launched a new machine concept introduced to the market during It’s Tissue: the new Prodergy tissue machine unites top performance with maximum energy efficiency via a special configuration of the drying section.”

**PMP’s Mejsner:** “We have focused on significantly moving forward with our drying technologies and PMPower is now responsible for a full range of energy solutions. We also started up a couple of Steel Yankee Dryers Intelli-YD®; our Steel Yankees with insulated heads ensure 4-6% savings on steam consumption in comparison to cast Yankees.

“Our Intelli-Tissue®1200 EcoEc for Henan Hulijia Industrial (a Crescent former TM which PMP designed and made) and with steel Intelli-YD™ and SteamHeated Intelli-Hood™ has recorded ultra-low media consumption goals (1.9T steam/T paper) which is the best on the market. For customers focused on operation costs reduction, we recommend to incorporate large diameter suction press rolls to increase sheet dryness over the standard one without reducing of bulk to generate further energy savings. We have also investigated alternative solutions within

*“Our tissue machines are equipped with MDS high efficiency gas fired hood which can be combined with a Recovery Steam Generator (RSG) that recovers energy from the exhaust air and produces extra steam. In this way the specific gas consumption can be reduced by as much as 8.5%.”*

**Giovanni Deperis**

the vacuum systems (as vacuum pumps are a big electric energy consumer). The development work has aimed to optimise the way the vacuum is generated and used on the TM as it is so far not possible to produce tissue efficiently without a vacuum. PMP has been working with a leading supplier of Turbo Blowers to offer an alternative solution to standard Liquid Ring Pumps. The main advantage that makes the system attractive is 30-60% power savings in the vacuum system."

*"We have focused on significantly moving forward with our drying technologies and PMPower is now responsible for a full range of energy solutions."*

**Maja Mejsner**

**Valmet's Andersson:** "Energy savings are a dominating driving force in our development. One significant contribution from Valmet is the widely spread ViscoNip press increasing the dryness entering the Yankee cylinder. This is now used in 2/3 of our recent deliveries bringing energy savings as well as possibilities for bulk increases in the final product."

"The other area of efforts lately is the improved efficiency in the Yankee cylinder and hood technology. Highly efficient Yankee cylinders in combination with the new generation of steam-based Yankee Hoods are also now able to reach very high production. The most unique, new energy saving technology that has been successfully launched is the Advantage ReTurne energy recovery system. This system is best applied to the highest speed machines where a significant amount of Fan pump electrical energy is recovered. The experience from the field installation is excellent."

**A.Celli Paper's Olibano:** "2015 – like previous years – was a year for reconfirming and enhancing the R&D work done with the aim of creating new patents. In today's high-pitched technical world, where everything seems to have already been invented, A.Celli's philosophy is to continue along this trend because this, of course, is far from being true. We have concentrated on optimising past patents and processes. Yankee insulation, the optimisation of headbox consistencies, Yankee steam hoods, Yankee recovery boilers, vacuum sources, benefits and limits of two press rolls: these are the areas where we have focused most of our efforts in order to offer customers value-added products. And proof of this is the fact that we are currently in the process of patenting a unique innovation on a global scale and we will officially present it at the major trade shows in the course of the coming year."

## TWM/4 **What are the key technical challenges and opportunities facing your clients and how are you helping them?**

**Hergen's Rodrigues dos Santos:** "For the past couple of years, our customer's challenges are related to energy savings, electrical energy, gas and steam and more lately water consumption (which, in our view, will be a key trend in years to come). In every project – new machine or machine rebuild – we always check with customers the cost of consumables and

based on that we can customise our project in order to meet the production requirements with best cost per tonne of paper. We also have good partners that developed a system to reduce to a minimum fresh water consumption in order to meet the new tissue industry requirements."

**Voith's Gallo:** "Sustainability requirements are becoming more demanding and energy costs as well as production costs will continue to increase. To be competitive in this market, our customers focus on highly efficient operations. As a process supplier we have an eye on the big picture – from fibre to finished paper roll. With value adding products and solutions we can support our customers to keep the plant efficiency on a high level throughout the entire lifecycle."

**Kawanoe Zoki's Goda:** "We have tried to gradually include the know-how of veteran paper making engineer that has accumulated over many, many years, to the automation of the machines. At the same time, we are trying to establish over-all service system for our customers."

**PAPCEL/ABK Groupe's Deperis:** "Our clients are tissue producers that have to follow the trend of the consumer's market. Tissue users are prioritising high quality and the lowest price, so challenges here are usage of low cost fibres, low water consumption and low energy consumption. High-end markets will always demand top quality therefore our most important clients have to be able to combine all cost reduction techniques without compromising, even minimally, on product quality."

*"To be competitive in this market, our customers focus on highly efficient operations. As a process supplier we have an eye on the big picture – from fibre to finished paper roll."*

**Carlos Gallo**

**Toscotec's Mainardi:** "Our industry is a process industry so we need to help our customers by providing solutions and projects, not just mechanical equipment. Our extended experience in managing different types of pulp process (dry pulp, slush pulp, bagasse, waste paper) is helping us provide customers with the right choice for different applications. Drying solutions can help customers to minimise emissions in the atmosphere. An extended, pre-engineering service with professional and detailed studies from the start helps to encourage the partnership with the customer. Efficient project management and management of the complete plant turnkey concept can guarantee success in developing projects with us. A modern customer care structure also provides our clients with first class service from the start up to the whole life cycle of the equipment."

**PMP's Mejsner:** "The tissue industry is a consumer-driven sector of P&P, just as hygiene was, is and will always be very important. Our paper mill clients need to react on consumers' needs. The trend is to have better quality products; softer and stronger. At the same time competition is harder so operation costs are crucial. Over the last 10 years we have also observed serious energy prices instability, especially concerning oil and



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**Maja Mejsner**

natural gas. As a consequence, the cost of steam and electricity are constantly increasing and papermakers cannot neglect the hidden costs of over-ventilated or uncontrolled Air Systems.

"To help our clients we offer flexible solutions (our tissue machines from the Intelli-Tissue® platform can produce a full range of products) so they can react depending on market conditions. We are focusing our design efforts to ensure ultra-low energy consumption (as per the solutions described above) and trouble-free operation of TMs and very low downtime factor (less than 12 days a year). Simplicity and effectiveness are key – just three operators are essential to run a complete technological line (from stock prep up to a rewinder). Depending on capacity needs we can provide an integrated tissue mill with twin tissue machines, no basement, shared control room and a replacement parts base, bringing a great blend of flexibility and savings."

**Valmet's Andersson:** "Reduction of running costs are probably the most important in the long run as the cost of energy, fibre and water supply will increase over time, even if temporarily these costs appear to be reduced. This pressure will be even more important as the competition in the market increases with new entry companies making their way into this business. We have several new developments on the way focusing various aspects in the process, but they all must also be more effective, 'producing more with less'."

**A.Celli Paper's Olibano:** "In the last few years, the market has proposed many ideas and lots of innovation. Some have really helped tissue technology and increased the quality level of the products while at the same time reducing energy consumption. Others were merely "trendy and appealing". We now have a mature environment that allows us to look into customer data, compare the results and share ideas with an open mind.

"A good example of this process is the double layer headbox: good technology with proven benefits. But without an analysis of the energy consumption and capital investment involved, comparing these with the results it may turn out to be a poor investment."

**TWM/5** **What overall trends in tissue machine manufacture will have the greatest impact on the production process in the next five years?**

**Hergen's Rodrigues dos Santos:** "The next five years will establish the shoe press as the leading trend for tissue production because of its flexibility for paper quality and production increase, as well as its well-know advantages for

energy savings. Other trends that we can see clearly increasing is the production of texturised tissue that already leads production in North America and Europe, and is now growing quickly in Central, South America and Asia (mainly in China) due to new technologies that allow the production of a premium grade with lower energy consumption.

"In emerging economy countries, we expect that the increasing demand of high quality tissue will lead paper mills to replace the old Fourdrinier by a Crescent Former (or even install a new machine replacing the old one) and replace their old cast iron Yankee with a new Steel Yankee in order to keep them competitive in a demanding market, where the lower cost per tonne is being chased day after day without compromise product quality. This is the equation to be solved to find the equilibrium between quality and cost."

**Voith's Gallo:** "The focus is on resource-saving products and solutions that help our customers to run highly efficient operations. We will continue to actively shape and promote the further development of paper technology. With Papermaking 4.0 – this is how we call the "Industry 4.0" for the paper industry – we are already on the way. We focus on connected, smart solutions and processes that provide a clear added value to our customers and thus make our contribution to a competitive and sustainable industry."

**Kawanoe Zoki's Goda:** "We think flexibility in making paper is required in accordance with a variety of demands for paper grades as well as the quality, while the challenge for saving energy shall never be over. We work hard in that direction."

*"The focus is on resource-saving products and solutions that help our customers to run highly efficient operations. We will continue to actively shape and promote the further development of paper technology. With Papermaking 4.0 – this is how we call the "Industry 4.0" for the paper industry – we are already on the way. "*

**Carlos Gallo**

**PAPCEL/ABK Groupe's Deperis:** **A.** The forming section: the Crescent former has established itself as "the" forming section for high-speed tissue manufacture. I cannot see here that there is any revolutionary design change. The CR former is efficient, easy and economical to run and gives excellent quality.

**B.** Shoe press and similar applications: these produce softer tissue, close to TAD quality, without the high expenditure of energy required by TAD.

**C.** The Steel Yankee, which has become a today's standard. Its advantages in heat transfer allow machine manufacturers to do without a foundry, which is a very un-economical operation, at least in Western Europe. In future all tissue machines will have this type of dryer.

**D.** Hood: the air cap will be designed with ever-increasing air temperature and blowing velocity, to increase to the maximum

extent the drying capacity. This, and the Steel Yankee, will allow smaller diameter dryers for high productivities, reducing the investment cost and the overall size of the tissue machine."

**Toscotec's Mainardi:** "Like in all other heavy industry processes, environmental and sustainability issues along with energy savings will continue to be the main driving factors. Obviously quality is very important; bulk and softness are some of the most challenging quality targets that tissue customers are understandably seeking. Combining paper quality with reduced production energy demand is also a main goal in any new project and business plan, but even placing aside the initial investment it must be inevitably associated with the evaluation of overall machinery efficiency and runnability, and the need for reduced operation and maintenance costs. Conventional tissue technology, with recent implementations to achieve high quality final products, efficiency and reduced production energy consumption, is still offering a proven and up to date solution with high potential for targeting bulky and soft grades. We expect structured tissue technology to have a market impact primarily on non-conventional technologies, such as TAD systems."

*"Obviously quality is very important; bulk and softness are some of the most challenging quality targets that tissue customers are understandably seeking. Combining paper quality with reduced production energy demand is also a main goal in any new project and business plan, but even placing aside the initial investment it must be inevitably associated with the evaluation of overall machinery efficiency and runnability."*

**Davide Mainardi**

**PMP's Mejsner:** "We believe three trends will be observed in the near future. Emerging markets (Eastern Europe, Latin America, Russia, etc) will be focused on cost (of investment and operation), so simplification and proven solutions (such as Crescent Former technology) will take the lead. Mature markets (North America, Western Europe) will be focused on innovation, meaning state-of-the-art technologies (like TAD, or multilayer headboxes, etc) as well as doing things differently from competitors (applying products/solutions exclusively designed for a particular customer). Finally an alternative investment path might appear, such as old newsprint machine conversions (fourdrinier types) into towel making lines. We have been involved in a couple of such projects (Phoenix ConceptTM rebuilds) of re-purposing of obsolete assets to be designed into a new line providing relocation, combining new core and existing assets (relocated from one place to another), refurbished and reconfigured to produce different paper grades), allowing significant investment cost savings (especially in Europe)."

**Valmet's Andersson:** "Our lengthy experience in supplying tissue making processes shows that equipment becomes more and more standard or modularised. Our customers are concentrating more on the refinement of tissue products and

*"Our lengthy experience in supplying tissue making processes shows that equipment becomes more and more standard or modularised. Our customers are concentrating more on the refinement of tissue products and marketing efforts, and expect machinery builders to provide cost efficient and flexible solutions with the built-in potential for future grade developments."*

**Ingmar Andersson**

marketing efforts, and expect machinery builders to provide cost efficient and flexible solutions with the built-in potential for future grade developments.

"Production lines also will have on line support and remote access to enable expert service support instantly, even if it's from the other side of the globe."

**A.Celli Paper's Olibano:** "In most geographic areas, the trend will still continue to be driven by energy savings. Different areas will attribute different meaning to this. China is looking for steam energy in most of its new installations, driving technology towards bigger Yankee construction and the efficient maintenance of steam hoods. Other important developments will influence the manufacturing process per se, such as the redesign of the headbox, to have the same type of formation with lower consistency."



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### Company Profile:

BaoSuo, the first brand in China, specialist in converting machinery for tissue ,in operation since 1989, have more than 800 employees and thousands of machines worldwide, and also the only supplier in China can supply complete range of machines for tissue production, such as rewinding machinery for toilet roll, kitchen towel, AFH and industrial rolls, folding machinery for facial tissue, hand towel,napkin and handkerchief, slitting rewinder for jumbo roll and kraft paper, and core making machine.

# A radical step changer?

**The new Andromeda converting technology is, manufacturer Futura believes, going to revolutionise the market. TWM reports on the claims.**



It's six months since Futura launched its new Andromeda converting technology for tissue roll products at It's Tissue - and at least five orders are already on the books.

At the time of going to print, details of four of the five customers had yet to be announced, but it was confirmed in November that America's Resolute Forest Products was to take delivery of the Andromeda Concept, with expected production start-up in the first quarter of 2017. Another line was destined for North America and another for Europe.

Futura make impressive claims for Andromeda - improvements on all key areas of process continuity, overall equipment effectiveness, safety, reduced operating costs, productivity, layout, manpower reduction and finished product quality.

The technology was two years in development at the company's FuturaLab in Lucca, Italy, where Futura chairman Fabio Perini and head of technology Giovacchino Giurlani built a full-size working demonstration plant to put Andromeda through its paces.

Perini describes Andromeda as "a radical step changer."

"The world is full of companies that believe they have reached the top and just sit down, and literally within months, without even knowing what happened to them, they collapse," he says.

"Primarily because the market is like a bicycle race: following is always easier than leading. And then because, when you lose momentum, it's not so easy to get it back. It's a fact that squatters are not the best runners."

## Andromeda technology key claims

Andromeda is suitable for roll tissue converting including wide (5.6m) lines. Breaking the concept down into sections, the first notable innovation is in parent reel handling. Due to a new-to-the-market integrated handling system, it can also load, unload and splice with "exceptional automation and safety, therefore delivering process continuity".

Futura claim this is the first example in the industry of a technology which can position the jumbo roll (up to 3m diameter) on the unwind stand at the beginning of the converting line without manual intervention, including automatic chuck removal and insertion offering "considerable

benefits in terms of safety and process runnability and continuity".

- If the converting plant has an automated warehouse with laser guided vehicles (LGV) then the system will effectively be automated from the collection of the jumbo roll in its warehouse location to the winder and beyond, depending on the further processes specified, such as wrapping, handling and palletising. It is therefore an indispensable part of the fully-automated mill, which is the ultimate solution for safety, capacity and efficiency.
- The unique, automatic integrated crane which handles the jumbo roll also serves to assist embossing roll replacement, thereby removing duplication in the process, and making it unnecessary to install an extra crane above the line. The absence of manual crane control also removes another possible source of human error.
- The next new element is the Sferica Rewinder, said to provide outstanding performance with the smoothest operation and consistency, with good winding quality for conventional, structured and TAD paper. Maximum uptime and bulk preservation are the main achievements, while its patented



Wind & Seal technology makes the external tail sealer redundant as the logs leave the rewinder perfectly sealed with minimum glue application.

### The core business of space saving

Then there is Duplex, the double-head, high performance coremaker. Along with the new core accumulator, they are the essential components of the concept's space-saving layout which Futura says is revolutionary.

Thanks largely to the integration of the core-making and accumulating aspects of the line, these do not take up the space next to the line which standard arrangements require. This allows two lines to fit within a width of 25m – which is significantly less than would normally be the case – up to 43m would be quite typical. The smaller building footprint trims down the capital expenditure aspect of a project and simplifies logistics and handling yield manpower savings.

### A control room for converting?

These manpower savings are enhanced by automation and process control. Much of the line's operations, or indeed of two separate lines' operations, are managed from a separate control room. Giurlani adds that this is a new concept for roll products converting, being similar to what you would expect for a tissue or papermaking line rather than a converting plant.

The control room reduces physical contact with the process but provides an unparalleled overview of the operation thanks to an HD

camera system. "The control room concept has the potential to change the way lines are operated, thereby setting new market standards in automation and safety," he says.

The ProCare technical support functions including the mobile ProTablet which are fully integrated with the control room and make full use of the smart camera system for diagnostics.

"ProTablet is part of the control room," says ProCare manager Alessandro Viani, "and innovations relating to ProTablet, which we will announce at Tissue World in New Orleans in 2016, will be important features of the first Andromeda lines to be installed."

The concept also encompasses Futura's printing, embossing and cutting technologies. JOI embosser, for example, features the Tango Roll which is claimed to require less maintenance than standard options. There is no re-embossing effect, perfect inner ply definition and simplified cleaning.

Giurlani adds the concept is also inherently safer in its functionality, allowing better working conditions for operators and maintenance staff. "It scores very highly for Overall Equipment Effectiveness, combined with quality consistency and more efficient use of manpower.

Overall, we are convinced that it represents a better way to make roll products in all respects. Now that people have seen the concepts in action, they can see their positive impact in a commercial context. For us, the Andromeda Concept represents the beginning of the way that leads to the future of converting."



# Outlook for World Tissue Business

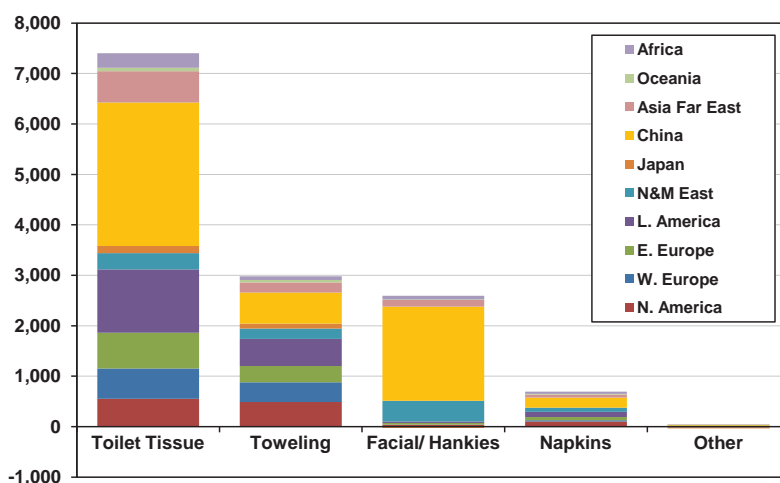
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RISI's Outlook for World Tissue Business provides insight into recent changes and future growth prospects for the global tissue industry. The study provides details for each key region including key players, supply, demand and operating rates with forecasts up to 2023.

The global tissue industry has experienced strong growth since the global recession. Growth rates have returned to between 3.1-3.9%, after plummeting to 1.2% in 2009, and the global market continues to be in a strong expansion phase. China leads volume growth, followed by North America, Western Europe and Latin America. Over the forecast period, China is expected to continue to export tissue to other regions with a net export surplus growing from 820,000 tonnes annually in 2014 to about 960,000 tonnes by 2018.

Expected Volume Growth in Tissue Markets by Product and Region, 2013-2023  
Thousand Tonnes

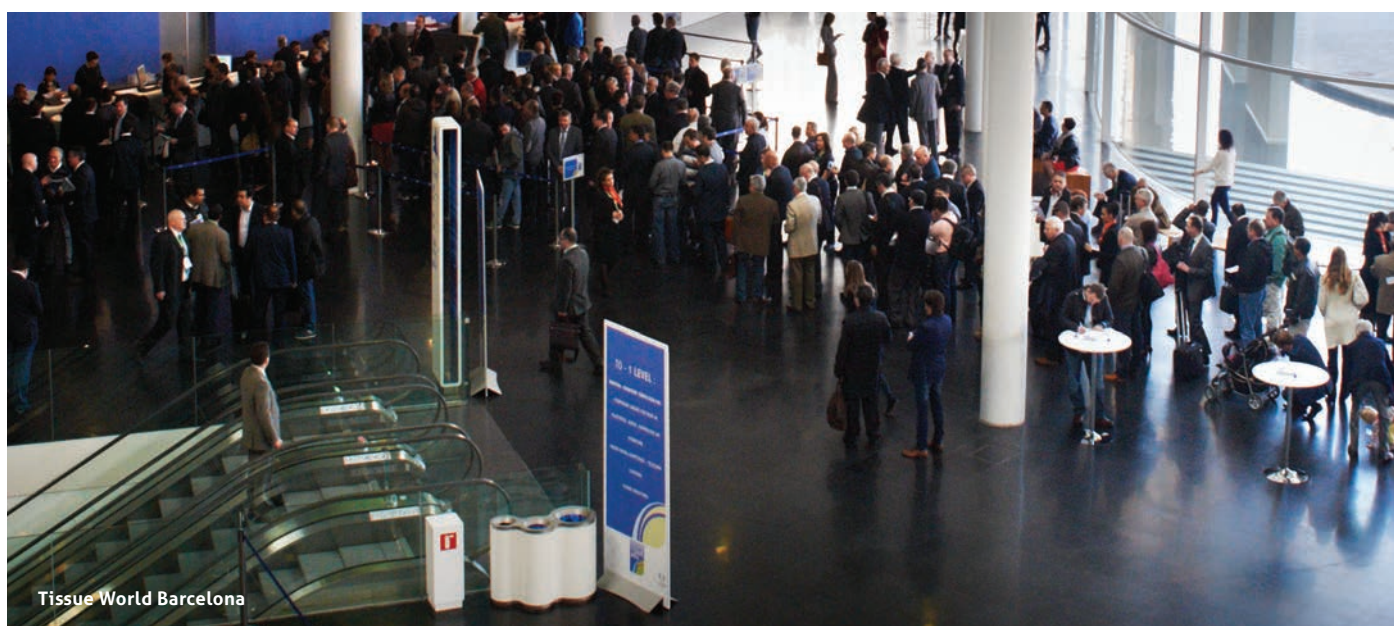


## This study details:

- Driving forces for future demand – broken down by region
- When the tissue business will take – off in countries such as India
- Current and future growth rates and volumes by region
- How world tissue demand will develop – by region and by sector/product
- Global tissue consumption by product and by market segment
- Who the major suppliers and what their strategies are
- The new committed projects by region, and how these will affect operating rates
- The technology and retail trends that will shape the future

# Events Calendar

Event	Date	Location	Website
Tissue World New Orleans	March 14 - 17, 2016	New Orleans, USA	<a href="http://www.tissueworld.com/NewOrleans">www.tissueworld.com/NewOrleans</a>
CIDPEX 2016	April 11 - 13, 2016	Nanjing, China	<a href="http://www.cnhpia.org/en/conference.htm">www.cnhpia.org/en/conference.htm</a>
Label Summit Latin America	April 26 - 27, 2016	Cartagena, Colombia	<a href="http://www.labelsummit.com/colombia">www.labelsummit.com/colombia</a>
ISSA/INTERCLEAN Amsterdam	May 10 - 13, 2016	Amsterdam, Netherlands	<a href="http://www.issainterclean.com/">www.issainterclean.com/</a>
PaperCon 2016	May 15-18, 2016	Ohio, USA	<a href="http://www.papercon.org">www.papercon.org</a>
Asian Paper 2016 Bangkok	June 1 - 3, 2016	Bangkok, Thailand	<a href="http://www.asianpapershow.com/">www.asianpapershow.com/</a>
ZELLCHEMING-Expo 2016	June 28-30, 2016	Frankfurt, Germany	<a href="http://www.mesago.de/en/ZEX/">http://www.mesago.de/en/ZEX/</a>
ISSA/INTERCLEAN Istanbul	September 7-9, 2016	Istanbul, Turkey	<a href="http://www.tissueworld.com/Istanbul">www.tissueworld.com/Istanbul</a>
Labelexpo Americas	September 13 - 15, 2016	Chicago, USA	<a href="http://www.labelexpo-americas.com">www.labelexpo-americas.com</a>
Tissue World Istanbul	September 27-29, 2016	Istanbul, Turkey	<a href="http://www.tissueworld.com/Istanbul">www.tissueworld.com/Istanbul</a>
Labelexpo India	November 17 - 20, 2016	Delhi NCR, India	<a href="http://www.labelexpo-india.com">www.labelexpo-india.com</a>
Tissue World Shanghai	December 7-9, 2016	Shanghai, China	<a href="http://www.tissueworld.com/Shanghai">www.tissueworld.com/Shanghai</a>
ISSA/INTERCLEAN Latin America	February 22-24, 2017	Mexico City, Mexico	<a href="http://www.issainterclean.com">www.issainterclean.com</a>
Tissue World Milan	March 28 - 30, 2017	Milan, Italy	<a href="http://www.tissueworld.com/Milan">www.tissueworld.com/Milan</a>
ISSA/INTERCLEAN CEE	April 26-28, 2017	Warsaw, Poland	<a href="http://www.issainterclean.com">www.issainterclean.com</a>
Asian Paper 2017 Jakarta	May 17 - 19, 2017	Jakarta, Indonesia	<a href="http://www.asianpapershow.com">www.asianpapershow.com</a>
Tissue World São Paulo	June 7 - 9, 2017	São Paulo, Brazil	<a href="http://www.tissueworld.com/SaoPaulo">www.tissueworld.com/SaoPaulo</a>



Tissue World Barcelona



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

### A. INTEGRATED TISSUE PRODUCTS MAKER

**Primary business making paper and producing:**

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

### B. JUMBO ROLL SUPPLIER

- ☐ Jumbo Roll Maker, for sale to converters

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

- ☐ Paper making machinery
- ☐ Fabrics, felts, clothing
- ☐ Drying technologies
- ☐ Process automation and control
- ☐ Water treatment, environmental and effluent control
- ☐ Dust control and air treatment systems
- ☐ Doctors and creping blades
- ☐ Deinking
- ☐ Stock preparation, fiber processing and pulping equipment
- ☐ Fibers: Market pulp and recycled fiber
- ☐ Chemicals and chemical technologies
- ☐ Converting machinery and supplies
- ☐ Printing machinery and supplies
- ☐ Inks, glues and dyes
- ☐ Embossing rolls

### C. TISSUE CONVERTER

**Primary business is converting jumbos and producing:**

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

### D. RETAILING AND DISTRIBUTION

- ☐ Retailer
- ☐ Broker
- ☐ Distributor
- ☐ Knives and blades
- ☐ Folders/interfolders
- ☐ Cores and coreboard
- ☐ Wrapping/Packaging equipment and supplies
- ☐ Transport and logistics
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