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TWM

TISSUE WORLD MAGAZINE

THAILAND

Enjoying its growing confidence

**Strengthened Economy – Increased Urbanisation - Political Stability -
Rising Incomes – A New Era of Supermarket Shopping**

PLUS: MARKETISSUES

**TW Miami – a double celebration
FULL REPORT**

RETAIL SPECIAL

Rise of the Omnishopper

TECHNICAL THEME: PACKAGING

Asia fires global growth to €984bn by 2024

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Pioneers: Grandfather Yipyintum and his son open Thailand's first tissue mill in 1966. TWM talks to their managing director grandson and son Dr. Sumrit Yipyintum in Bangkok.

Plus: Kimberly-Clark - the tissue giant explains why it has growing confidence in its Thai and Asian tissue operations.



TWM

TISSUE WORLD MAGAZINE

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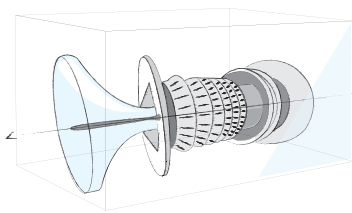
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Cover: A Bangkok skyline showing the city's increased urbanisation.
By PURPLEPRINT Creative.

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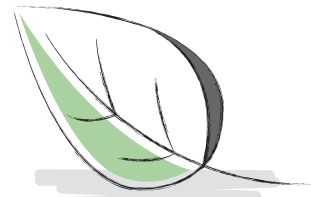
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Thailand is ready to take the foot off the brake

We could do no better in assessing tissue prospects in Thailand than quote directly from Kimberly-Clark in this edition of TWM's Country Report.

"We are seeing mid-single digit growth ... a result of Thailand's strengthened economy, political stability, improving consumer sentiment and rising incomes. Consumers are becoming more sophisticated and are demanding products that meet their lifestyle needs. They are seeking more convenience and want specialised solutions for specific problems."

Thailand's tissue manufacturers are confident about their prospects. All the signs are that growth, already good, is poised to gather pace.

Dr. Sumrit Yipyintum, managing director of Thailand's first tissue mill RiverPRO, is equally up-beat: "Our consumers are now much more educated about hygiene and so the tissue market is changing, we're more and more seeing the adoption of tissue in homes as a day-to-day habit rather than a luxury."

Urbanisation, tourism and AfH are on the up, and large supermarkets entered the retail market 10 years ago.

This is a dramatic change from 20, and even fours ago. Twenty years ago Thailand's emerging market economy was cited as a warning of the dangers of too rapid economic growth: wide current-account deficits, inflation close to 10%; exhausted

foreign-exchange reserves; and the baht no longer pegged to the dollar.

Deeply conservative authorities took the alarm to heart. Today the Bank of Thailand (BoT) and successive governments have steered the country to the other extreme. Economists have described Thailand as the new Japan. Not the Japan of the dynamic tech manufacturing brilliance, but the Japan of later years of stagnation.

They point to clear parallels. It has Japan's demographics from 25 years ago. It's on the Japanese path of zero inflation, very low interest rates and a big current-account surplus. Private investment expanded by only 1.7% last year. Inflation is once again a worry, because it is so stubbornly low.

By 2022 Thailand will be the first developing country to become an "aged" society, according to the BoT, with more than 14% of its population over 65. The proportion of elderly is rising faster in Thailand than in China.

Four years ago a military coup was, rarely after such an upheaval, the beginning of today's stronger, more stable nation.

In this economic assessment it is time for a more expansive, controlled fiscal policy to reap the rewards of a great opportunity. The tissue industry is poised to play its part ... one fact alone puts the optimism for change into perspective. Dr. Yipyintum reckons that more than half of the population of 68



Helen Morris

*Senior Editor,
Tissue World magazine*

million do not use any tissue products. It's time to show them what they are missing.

Tissue World

As TW Miami showed, the global tissue industry is seeing new players, new technologies, more potential, and an increasingly fast-changing retail landscape.

The exhibition's conference sessions elaborated on just how dynamic it is; global consumption in 2016 was an impressive 36.4m tonnes (North America claims 25%, China 21.3% and Western Europe 18.3% ... see our MarketIssues article for the report).

And so from America, where we thank our exhibitors and visitors, to Thailand, where in June we will hold Tissue World Bangkok. We look forward to seeing you there.

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Over 200 exhibitors, 1,687 total participants, 69 countries... Tissue World celebrated our 25th anniversary in Miami in style

The wonderfully modernised Miami Beach Convention Center was the fitting setting for Tissue World's double celebration – our 25th Silver Jubilee anniversary as the global industry's leading tradeshow, and the opening of North America's largest tissue exhibition and conference ... the 9th edition in the US.

WORLD
Miami



TO
WORLD MIAMI 2018

CONVENTION CENTER

More than 200 exhibitors and a total of 1,687 participants from 69 countries met in Miami in March. The tradeshow floor spanned an impressive 125,000-square-feet and the new-look conference hosted 307 delegates in a variety of talks and deep-dive sessions of targeted intelligence gathering aimed at navigating the challenges of the year to come. Some 53 expert speakers from across tissue's value and supply chains shared industry insights and expert knowledge.

The theme was crucial to every business looking to boost margins – "When Best in Class isn't good enough: Identifying hidden dynamics to optimise business performance."

Key topics included business drivers such as shifts in global trade, big-data integration, economic and population trends. Delegates also had the chance to arm themselves with Tissue World Magazine's state-of-the-nation "Focus Report: USA" supplement, an in-depth analysis of economic, M&A, demographic, cultural, political and energy trends in the North American tissue market.

Miami was a truly global affair: companies attended from Brazil, Canada, China, the Czech Republic, Finland, Germany, India, Indonesia, Israel, Italy, South Korea, Lebanon, Mexico, Portugal, Republic of Serbia, Spain, Sweden, Taiwan, Turkey, the United Kingdom and the United States.

Representatives from an impressive range of companies showcased their latest products and technologies.

Our gala dinner at the grand Temple House was held in conjuncture with the announcement of the prestigious TWM Mill Awards.

Now TW moves on; Miami 2018 was just one important part of Tissue World's global reach. Twenty-five years on from our launch our portfolio of trade shows and conferences embraces the Americas, Europe, the Middle East and Asia.

Our leading independent publication Tissue World Magazine and Focus Reports are a vital part of connecting people across the world ... a trade show in print and online.

It was a special event in Miami – a great start to a unique year for TW and our industry friends across the world. For those who couldn't be there, and for those who could, over the next few pages TWM carries an extensive summary of key issues.

ESSITY, CASCADES PRO AND RESOLUTE TAKE HOME TWM MILL AWARDS; BBA BIOTECH NAMED MOST SUSTAINABLE EXHIBITOR

Tissue World has awarded Essity, Cascades Pro, Resolute and BBA Biotech with a variety of prestigious awards during Tissue World Miami 2018.

Announced at TW's gala dinner, the winner of the Best Tissue Marketing Strategy category was awarded to Essity, while Cascades Pro was the runner-up.

Resolute Forest Products won the award for the Most Energy-Aware Mill Award.

Essity gained the Marketing Strategy Award for its communication programme in support of the rollout of its Tork PeakServe towel dispenser that is designed to meet the needs of high-traffic washrooms.

The company analysed the needs of consumers through market research; starting from customer insights instead of technological and production capacities, and using primarily online and digital channels, it took a long-standing product — the hand towel — and gave it a new angle with added customer benefits, using the latest technology.

Cascades Pro took the first runner-up award in the marketing strategy category for its rebranding effort that created a new company name and tagline.

From Cascades Tissue Group, the company rebranded to Cascades Pro.

The winning marketing one-liner was "All clean. All good." ("Tout beau. Tout propre:").

The rebranding effort was anchored by a redesigned website and marketing video that demonstrated the company's commitment to helping people feel good with proven hygiene solutions.

Resolute Forest Products – Calhoun pulp, paper and tissue operations – was recognised by the Mill Awards judging team for its significant investments in green technologies and for moving from coal to natural gas power.

Since 2015, the company has invested over \$400,000 in a continuous pulp digester and wood chip processing equipment at its Calhoun operations which resulted in significant energy improvements and efficiencies.

Resolute has saved 1.15 million GJ — equivalent to the amount of electricity used by 36,000 homes in a year.

The mill has also achieved a 73% reduction in emissions since 2000 — a full 8% more than its projected goal of 65% fewer emissions.

The Sustainability Award went to BBA Biotech for having the most eco-friendly booth at TW Miami.

Exhibitors were polled to see how well they incorporated sustainability best practices into the design and transport of their stand before, during and after the event.

The judges assessed the approach exhibitors took to eliminating, reducing, reusing and recycling stand material, collaterals, energy, waste, transport and food.

BBA Biotech designed their booth to be reusable and adaptable for future exhibitions. The design also emphasised lightweight materials to reduce the carbon imprint of transport. Magnetic and metal structures were employed to eliminate using tape and adhesives to erect the stand, and the company reuses the booth furniture, transporting it to different shows.

As much as possible, BBA Biotech used materials originating from sustainable, ethical and fair-trade sources. The Italian biotechnology company has focused on bio-based applications for a decade.

Judges said it promotes environmentally-friendly technologies with an array of products that provide an alternative to traditional chemistry.

A new NAFTA – what next?

By Suzanne Blanchet, strategic advisor, Canada

"Over the years, the Japanese have built a strong and vibrant economy, with unprecedented surpluses... They have brilliantly managed to maintain a weak Yen against a strong Dollar... and have moved Japan to the forefront of world economies."

Donald J. Trump, Private Citizen, said in a full-page ad in New York Times, 2 September 1987

Trump has held this view for over 30 years.

US ADMINISTRATION IS TRYING TO RESHAPE GLOBAL TRADE ~80% OF WORLD GDP IS ON-THE-TABLE

The North American Free Trade Agreement (NAFTA) – signed by Canada, Mexico and the United States and entered into force on 1 January 1994 in order to establish a trilateral trade bloc in North America – is currently under formal re-negotiations.

Its *US trade value (2016: two-way trade, total value of US exports and imports with all members of agreement) is \$1,077bn. This is compared to the US trade value of:

- The Trans-Pacific Partnership (TPP) at \$1,500bn. Status: unilateral withdrawal by US President executive order.
- The Transatlantic Trade and Investment Partnership (T-TIP) at \$697bn. Status: negotiations unilaterally suspended by US.
- China: trade agreement NA. US trade value \$596bn. Status: US initiated "Super 301" investigation under US trade law.
- USA: pursuing a mercantilist trade policy.

NAFTA RENEGOTIATION STATUS

Not clear that NAFTA renegotiations will succeed as planned. Ambitious timeline; August 2017 kickoff – round I.

Negotiations round II – V. Negotiators meeting every 2-3 weeks. Trying to make progress on ~25 subjects.

US proposals on certain topics acceptable to Mexico and Canada.

23-28 January 2018: Montreal, round VI.

March 2018 target deadline – Mexican and US electoral processes will complicate negotiations if they extend past Q1 2018.

Canada and Mexico not supportive of several US proposals including: automotive sector rules, five-year "Sunset Clause", government procurement rules and dispute settlement. US has consistently said it will cancel NAFTA if it can't get the concessions it is seeking.

WINNERS AND LOSERS IN A POST-NAFTA WORLD

Winning and losing sectors will depend on trade imbalances and difference between NAFTA and WTO tariff levels.

WHAT CAN FIRMS DO?

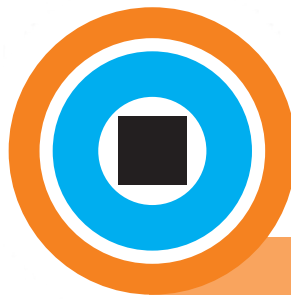
US:

- US has been the largest net importer of goods since 1975, with a goods trade deficit of US\$753bn in 2016
- China accounted for US\$347bn or ~46% of the overall trade deficit in 2016, followed by Japan (9%) and Germany (9%)
- At US\$11bn, Canada constituted only 1.5% of the total trade deficit in 2016, which has narrowed overtime from 8-9% levels in 2007 and 2008
- China is the largest trade partner with total goods trade of \$579bn in 2016
- Canada and Mexico, the NAFTA countries, are the second and third largest trade partners with total trade of US\$545bn and US\$525bn, respectively.

Canada:

- Canada has been a net importer of goods since 2009
- During 2006 to 2008, it was a net exporter of goods, with a positive goods trade balance of over US\$38bn annually
- In 2009, its trade balance turned negative to ~US\$5bn, and since then, Canada has only posted a positive trade balance once in 2014 (US\$13bn)
- Canada's international trade is largely dependent on US, which accounts for over 60% of the total goods trade in the last 10 years

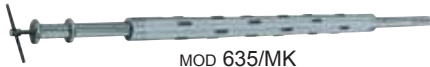
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MOD. 636/MS



MOD. 640/PL



MOD. 650/PLF



MOD. 638/PK



MOD. 642/PM



MOD. 650/PLS

Chucks, safety chucks for rewinding/unwinding materials



MOD. 714/MZ



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MOD. 711/MA



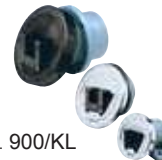
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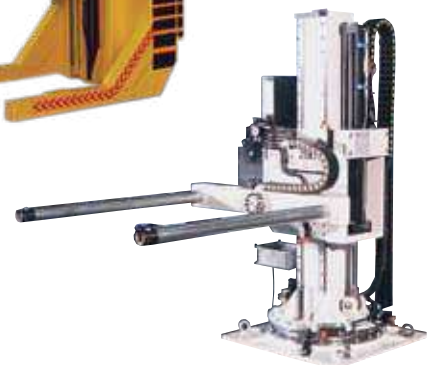
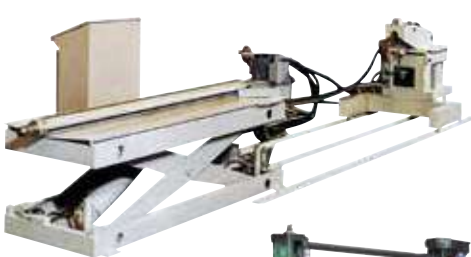


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- Over the past few years, the US/ Canada commercial balance has not been as much in Canada's favour than what the US claims today.

Canada is the US's second largest goods trading partner with US\$544bn in total goods trade during 2016.

US: Tissue Products Market Overview

Converted products exported by the US (2012 to 2016) –

Global Exports: Total 2,962,000 tonnes

Exports to Canada:
Total 1,971,000 tonnes.

Converted products imported by the US (2012 to 2016) –

Global Imports:
Total 4,601,000 tonnes

Imports from Canada:
Total 1,926,000 tonnes.

The US is a net importer of tissue products, however, Canada's exports contribution has fallen over time.

NAFTA

LAST SIX MONTHS

Tariff + compensatory rights on softwood lumber

Compensatory rights on newspapers

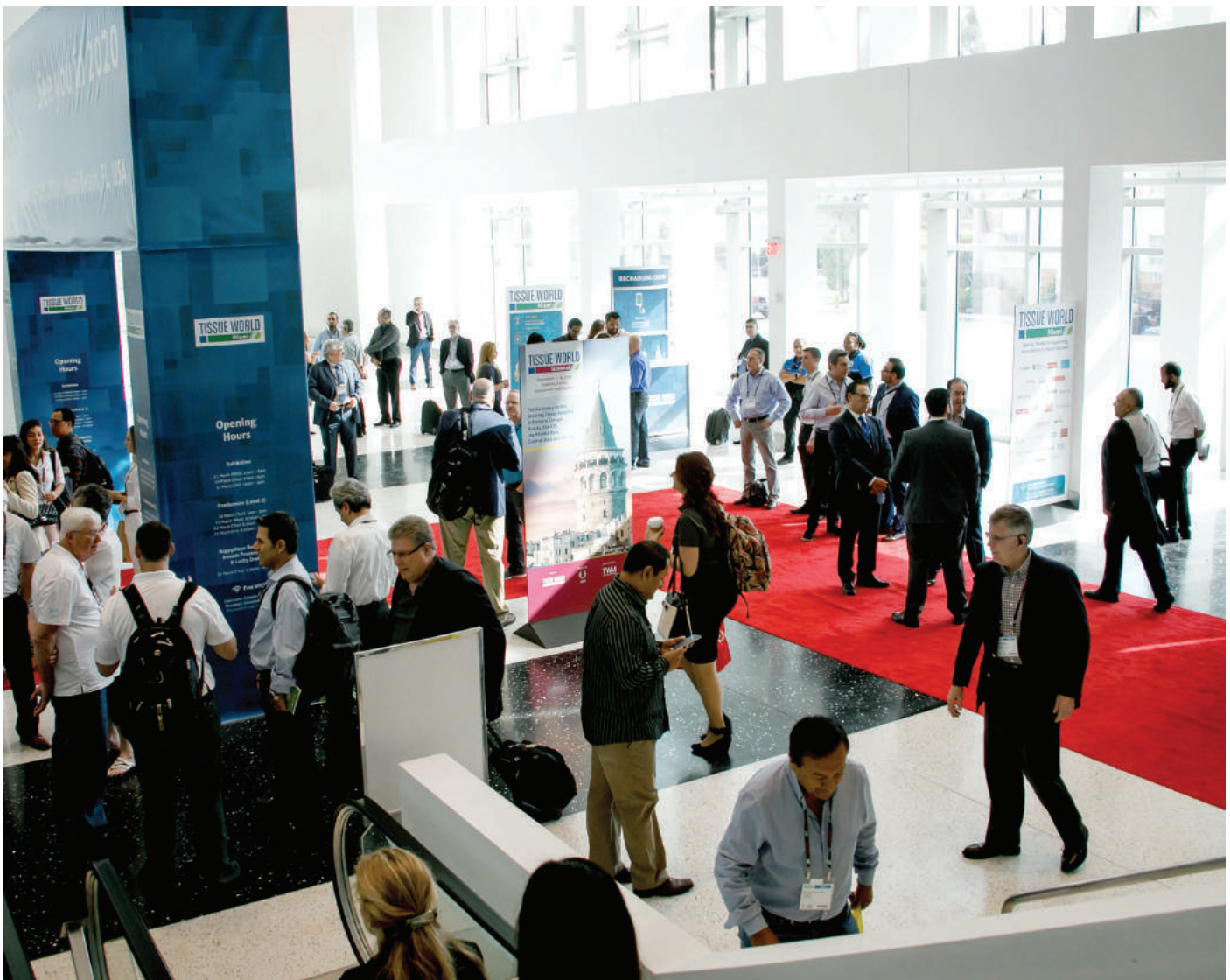
Tariff on steel and aluminium (Canada + Mexico temporary exempted)

Gary Cohn, Trump's economic advisor, resigned 7 March 2018.

Consequences on population: housing prices are going up, car and machinery prices will increase, costs are up for the American average-class population.

Consequences on business: 2x increase in operating expenditure of transacting across border, 72-hour outage of information backbone, zero cross-border travel for one week, double commuting time (and/or cost) for transportation of goods (sea, air, ground, train).

Geopolitically ... uncertainty.



TW Miami 2018 was a truly global affair: companies attended from Brazil, Canada, China, the Czech Republic, Finland, Germany, India, Indonesia, Israel, Italy, South Korea, Lebanon, Mexico, Portugal, Republic of Serbia, Spain, Sweden, Taiwan, Turkey, the United Kingdom and the United States.

China's industrial strategy – outlook and implications?

By Rodger Baker, vice president of strategic analysis, Stratfor USA

WHAT IS XI'S "CHINA DREAM"?

- Moderately prosperous society by 2021
- Modern socialist country by 2049

CHINA'S PROVINCIAL GDP PER CAPITA

The country's 23 provinces boast vastly different levels of economic output and living standards. The central government hopes to correct some of these disparities in order to ensure political stability.

Chinese commodity consumption and production – China's sheer size has

massive repercussions that trigger often unintentional, but no less important, effects on other nations, whether consumers or producers.

Its special economic zones – when China launched its "reform and opening" policies in 1978, it established four special economic zones in Fujian and Guangdong provinces. The zones offered the dual advantages of shifting industrial production to the coast and facilitating deeper trade ties with Taiwan, Macau and Hong Kong, three territories that China wanted to bring back under its control.

China's Belt and Road initiative: the massive connectivity initiative, first unveiled in 2013, combines China's long-standing visions for the Maritime Silk Road and Silk Road Economic Belt, targeting 64 countries and 15 Chinese provinces for transportation, energy and trade projects.

THE GROWING MOUNTAIN OF CHINESE DEBT

Increasing corporate debt in China in the past few years has been fuelled by a turn toward domestic investment, especially in its construction sector.

Consumer tissue in North America: operating in the market ruled by fundamentals

By Svetlana Uduisliavaia, head of tissue & hygiene research, Euromonitor International

MARKET OVERVIEW AND GROWTH DRIVERS:

Global tissue consumption: total tissue volume, retail and AfH, '000 tonnes, 2012-2017:

Asia Pacific: 9,608 – 12,381, Australasia: 0,375 – 0,403, Eastern Europe: 1,341 – 1,637, Latin, America: 3,171 – 3,442, Middle East and Africa: 1,472 – 1,819, North America: 7,463 – 7,526, Western Europe: 6,144 – 6,428.

North American total tissue growth: 119,000 tonnes of additional tissue volume projected to be sold over 2017-2022

INCOME TRENDS AND PRICING PRESSURES

Per capita income in the US up from US\$34,528 in 2007 to US\$45,587 in 2017. Some 65% of US adults fall into the income bracket of under US\$50,000.

PRICING PRESSURE AND RETAIL COMPETITION

US households top motivation for shopping online. Free shipping, best price and flexible ordering: key drivers of shift to online retail. High income households don't mind bargains either: US households with incomes \$150,000 plus are the top motivators for online shopping: time savings, free shipping, flexible ordering, best price. Innovation to drive value growth. Offer tangible benefit; real solutions.

HOW FAR CAN PRIVATE LABEL (PL)

GO?

Private label growth and rise of discounters in North America. 2012 volume share 23% – 2017 volume share 26%.

Private label in Western Europe: retail tissue, % private label value share, 2017: Western Europe: 56% value share. Germany: 75% value share.

Private label in the US – now and into the future? US retail tissue, % value share by company, 2017: P&G 33%, K-C 20%, GP 18%, others 4%, Private Label 26%.

Doubling share of PL in the US in the conditions of market saturation and slow population growth would mean a dramatic decline of branded products. Is this realistic?

POPULATION TRENDS AND CONSUMER DEMAND

Market maturity: Per capita volume consumption of consumer tissue (retail) in 2017:

North America – 13.1kg. World – 3.1kg.

Very slow population growth in the USA.

Immigration changes population dynamic: shopping preferences of Hispanic consumer in the US.

Hispanic/Latino respondents – intended

change of habits in the next 12 months.

Saving money was a priority. Hispanic consumers also expect to buy more private label and visit discounters more.

Millennials in the US: willingness to pay more for high quality vs increase in visits to discounters. Key: high quality products, multi-functional, strong or well-known brand.

At the same time, 26% of Millennials plan to increase spending on private label and

37% – to increase visits to discount stores

SLOW RETAIL BUT OPPORTUNITIES IN AFH TISSUE: TOURISM IN NORTH AMERICA

Increase in domestic trips 2017-2022: +118m. Increase in international arrivals 2017-2022: +14m.

Increase in number of luxury/mid-market hotels 2017-2022: +4,069. Increase in number of budget/unrated hotels 2017-2022: +1,228.

Supply side dynamics: challenges through changing supply patterns

By Esko Uutela, principal, RISI, Germany

GLOBAL SYNOPSIS: WORLD TISSUE CONSUMPTION BY REGION

Market is dynamic: China has passed Western Europe in market size, while Asia Far East is — and Eastern Europe soon will be — larger than Japan. China has been the largest producer country since 2015.

Global Consumption: 36.4 Million Tonnes (2016): North America – 25%, China – 21.3% , Western Europe – 18.3%, Latin America – 11.1%, Asia Far East – 6%, Japan – 5.5%, Eastern, Europe – 5.4%, North and Middle East – 4%, Africa – 2.1%, Oceania – 1.2%.

Growth in the global tissue market: Relatively stable growth until the Great Recession in 2009, recent years strong.

Volume growth of tissue consumption 2006-2016: China accounted for 41% of growth, North and Latin America share second place, emerging markets accounting for an increasing share of the market growth.

LONG-TERM GROWTH TRENDS IN THE GLOBAL TISSUE MARKET

- International trade in tissue shows higher growth rate than tissue consumption, a clear sign of business

globalisation. Parent roll trade has accelerated in recent years.

- World's top tissue producers – recent major investments in Indonesia and Turkey have meant the two countries have entered into the top producer list. In order: China, USA, Japan, Italy, Germany, Brazil, Mexico, Indonesia, France, Turkey.
- The top 10 global tissue suppliers based on capacity, 2006 and 2016: North American companies clearly dominated the global tissue supply 10 years ago, but Essity is now the largest supplier.
- 2006 in order; K-C, G-P, SCA, P&G, Metsä Tissue, Sofidel, Kruger, Cascades, APP, Kartogroup.
- 2016; Essity, K-C, APP, G-P, P&G, Hengan, Sofidel, CMPC, WEPA, Kruger.

NEW PLAYERS ENTERING THE TISSUE SECTOR:

North America

- Atlas Holdings – Soundview Paper and Putney acquisitions;
- Dunn Paper – Mill acquisitions from Clearwater Paper;
- Resolute Forest Products – Atlas Paper Holdings acquisition and Calhoun, Tennessee, tissue PM investment.

Europe

- Abris Capital Partners – acquisitions of Pehart Tec in Romania and Velvet Care in Poland;
- The Navigator Co. – acquisition of AMS Star Paper and forthcoming Cacia mill tissue investment in Portugal.

Latin America

- Suzano Pulp and Paper – integration of Mucuri and Imperatriz pulp mills with tissue PMs in Brazil.

Near and Middle East

- Ittihad Investments – acquisition of Crown Paper Mill and expansion planned in the UAE.

China

- Shandong Chenming – diversification into tissue;
- Sun Paper – diversification into tissue;
- Lee & Man – diversification into tissue;
- Shanghai Taison Group – acquisition of Well Mind Paper in Chongqing and Guizhou Chitianhua;
- Max Fortune – consumer products company diversifying to tissue with Garven Sanitary Products mill but project hit with major delays.

Asia Far East

- Meghna Group – diversification into tissue in Bangladesh.

Africa

- Faderco – diversification into tissue in Algeria;
- Ethos Capital – acquisition of Nampak Tissue and renaming as Twinsaver plus forthcoming expansion investment.

ROLE OF FOREIGN TRADE IN THE NORTH AMERICAN TISSUE SUPPLY

Supply structure in the North American tissue markets, 2017

Domestic suppliers dominate, but imports from other regions are remarkably high

Total market size: 9.3m tonnes. US domestic – 81%. Imports outside North America – 7%.

Canada from the US – 4%. US from Canada – 4%. Canadian domestic – 4%.

Recent growth of US tissue imports and exports: imports are now close to one million tonnes, net imports have more than doubled since 2009 and were 443,000 tonnes in 2017.

US total tissue imports growth, 2009-2017: Canada continues to be the main US import source for tissue, but China has jumped into second position ahead of Mexico and Indonesia, import growth accelerated recently.

US tissue imports, parent rolls vs. converted products, 2009-2017: converted product imports grown by 5.4%/a, parent roll imports by 4.2%/a.

Main US tissue import sources, 2017: China accounts for half of converted product imports while Canada, Indonesia and Mexico dominate the parent roll business.

US imports of converted tissue products from China, 2003-2017: imports have grown from less than 20,000 tonnes in 2003 to more than 300,000 tonnes in 2017 and show an explosive growth curve – but will this continue? Average growth 22.4%/a.

CHANGING SUPPLIERS POSITIONS AND NEW PLAYERS

The top six North American tissue companies based on capacity are the same as 13 years ago, only P&G has passed K-C:

2005: G-P, K-C, P&G, Cascades, SCA, Kruger, Irving, Potlatch, Cellu Tissue, Marcal Paper.

2018: G-P, P&G, K-C, Cascades, Essity, Kruger, Clearwater, First Quality tissue (FQT), Irving, Sr Paper.

Major tissue capacity changes in North America, 2018-2020

2018:

- Sofidel America, Circleville, OH, USA (2x NTT) 140,000tpy.
 - Irving Consumer Products, Macon, GA, USA (TAD PM) – 64,000tpy.
 - First Quality Tissue, Anderson, SC, USA (TAD PM) – 64,000tpy.
- = 268,000tpy.

2019-2020:

- Clearwater Paper, Shelby, NC, USA (NTT PM) – 64,000tpy.
 - FQT, Lock Haven, PA, USA 64,000tpy.
 - Kimberly-Clark, Fullerton, CA, USA – 60,000tpy.
 - Sofidel America, Inola, OK, USA – 120,000tpy.
 - Georgia-Pacific Corp., Palatka, FL, USA (TAD PM) – 72,000tpy.
- = 260,000tpy.

POTENTIAL PROJECTS

- FQT, Anderson, SC, USA (ATMOS PM)? – 68,000tpy.
 - Kruger Tissue, Memphis, TN or Canada (TAD PM) – 65,000tpy.
 - Resolute Forest Products, Calhoun, TN, USA (second NTT PM) – 60,000tpy.
- = 193,000tpy.

The top 10 North American tissue suppliers based on capacity, 2018 and outlook for 2020: new capacity change announcements or acquisitions are possible but based on the current outlook, FQT will climb up to the sixth rank and Sofidel be part of the top 10:

March 2018: G-P, P&G, K-C, Cascades, Essity, Kruger, Clearwater, FQT, Irving, St Paper.

Mid 2020: G-P, P&G, K-C, Cascades, Essity, FQT, Kruger, Clearwater, Irving, Sofidel.

SOFIDEL ON A STRONG EXPANSION PATH. RESOLUTE FOREST PRODUCTS A NEW PLAYER.

Technological and raw material challenges: new technologies – will they challenge conventional and TAD tissue making?

- How will new technologies find place in the tightly competed tissue market? Practically all new PMs ordered are based on either TAD or NTT technologies.

CONCLUSIONS

- The global tissue business continues to grow with steady growth rates and without any major substitution threats seen in some other paper business sectors. This situation has attracted many new investors from outside the hygiene sector.
- Imports from overseas have grown fundamentally in the past 10-15 years, with Asian companies playing the key role in the import business. But there are clouds on the skyline through new political trends with protectionism and populism becoming effective. Free trade agreements are reconsidered and this could change the current trends.
- North American tissue market is in principle rather mature, but currently surprises spectators with its dynamics through new players, technologies and product launches.
- Skyrocketing pulp prices and threatening bleached recovered paper availability are major challenges for the industry.

A portrait of Luigi Lazzareschi, a middle-aged man with dark hair and glasses, wearing a light blue dress shirt and a blue patterned tie. He is smiling slightly and looking towards the camera. The background is a plain, light-colored wall.

Sofidel announces \$360m plant in Oklahoma

Italian tissue giant Sofidel has strengthened its presence in America after announcing plans to build a second greenfield tissue mill. Located in the south-central town of Inola, Oklahoma, the site will house an integrated plant with two tissue paper machines with a production capacity of 120,000 tonnes per year each, as well as related converting lines. One machine will be dedicated mainly to toilet tissue production while the second one will produce mostly towels.

Luigi Lazzareschi, Sofidel Group chief executive, said the investment will "significantly support our growth in the US". He said: "The American market is a crucial market for our group. Sofidel will build a new, modern integrated plant to serve the south-central and central-western areas of this great country, where we have been operating since 2012 and where we have been growing year after year at a very fast pace."

The company is committed to investing \$360m over the next three years.

Construction is expected to start in March 2018 and will be completed by Q2 2020, while the converting lines and the warehouse functions will be in place by the end of Q2 2019. The new production plant, once completed, will employ 300 full-time workers. It will be the second greenfield investment made by Sofidel in America, the first of which is based in Ohio.

"The American market is a crucial market for our group ... and this investment will significantly support our growth in the US".

Luigi Lazzareschi, Sofidel Group chief executive

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NORTH AMERICA

VTP and TMC join forces in North America

Valley Tissue Packaging (VTP) and Tissue Machine Company (TMC) have entered into a joint partnership to offer an enhanced range of packaging services for the global tissue industry. The move will "better fulfil customers' packaging needs with new products, world-class service and spare parts". TMC and VTP have annual sales of around \$100,000,000 and will serve the industry's packaging needs with production capabilities in Europe, North America and Brazil.

Matteo Gentili, president of TMC, and Mike Rooyakkers, president of VTP, symbolically signed the partnership and presented the upcoming plans for development at Tissue World Miami 2018.

Corey Hurst, VTP VP sales and operations, said: "VTP is excited to formalise its partnership with TMC to offer a wider range of well-designed technology throughout North America. We have found TMC to be a very innovative machine manufacturer for the consumer market. This, teamed with VTP's strong North American AfH market, allows us to deliver new products and services to our customers".



K-C targets bath tissue market with \$100m Alabama investment

Kimberly-Clark (K-C) has boosted its capacity in North America's bath tissue market after expanding production at its Mobile, Alabama site. The tissue giant announced a two-year project worth \$100m that it said will deliver "improved capacity, greater

manufacturing efficiency, and enhanced product quality".

K-C now employs more than 680 workers at the Mobile site, after it acquired it from Scott Paper Company in 1995. It produces bath tissue and paper towels under the Scott, Cottonelle, and K-C Professional brand names. In 2017, the company also announced plans for an on-site, state-of-the-art combined heat-power plant at the facility. The company was unable to provide further details of the investment at this time.

KP Tissue issues 4Q and full year 2017 results; reports "record high pulp and freight costs"

KP Tissue – the holding company of Kruger Products (KPLP) and KPT – has reported Q4 and full year 2017 results for the businesses. For the year, KPLP's revenue increased 4.2% to \$1,280.0m, compared to \$1,227.9m in 2016. Adjusted EBITDA was \$144.2m in 2017, down 5.4% from \$152.5m in 2016. TAD products adjusted EBITDA contribution "continued to be strong, reaching previously set targets". In KPLP's Q4 2017 results, revenue increased slightly to \$340.0m while adjusted EBITDA was \$33.7m compared to \$42.9m in Q4 2016. It added that it "experienced record high pulp and freight costs in the quarter". Mario Gosselin, chief executive of KP Tissue and KPLP, said: "We are proud of the record revenue achieved in 2017 of nearly \$1.3bn. Our cost-saving initiatives, capital investment programme and the selling price increase that took effect in Q4 in the Canadian Consumer market alleviated only part of the impact from the significant run-up in market pulp prices and the unprecedented increase in freight costs, impacting our results in the fourth quarter. We continue to be number one in the Canadian tissue market, and achieved our target for the TAD products Adjusted EBITDA contribution in the US. Furthermore, we ramped up production of our Crabtree (Quebec) paper machine, and improved our results for the Away-from-Home segment despite the impact of higher input costs."

He added the company is committed to its long-term strategy of building its brands in Canada and growing its business in the United States: "For the first quarter of 2018, even with the full impact of the Canadian Consumer price increase, we expect Adjusted EBITDA to decrease due primarily to the continued escalation of pulp and freight costs.

We are implementing a value creation programme to partially mitigate the impact of these extraordinary short-term market conditions."

KPT incurred a net loss of \$4.2m in Q4 2017 and a net loss of \$5.4m during the year. KP Tissue was created to acquire, and its business is limited to holding, a limited partnership interest in KPLP. KPLP is a leading Canadian manufacturer of quality tissue products for household, industrial and commercial use. In the US, KPLP manufactures the White Cloud® brand as well as many private label products.

The AfH division manufactures and distributes high-quality products to a wide range of commercial and public entities.

Double E Company acquires Converttech

Double E Company has boosted its web handling capacity after acquiring Converttech. Headquartered in Wharton, NJ, Converttech joins Appleton Manufacturing, Epoch Industries, and Double E Europe as part of the Double E platform of companies manufacturing mission-critical converting products.

Tom Pranka, Double E chief executive, said: "The acquisition continues Double E's drive to provide the industry's most comprehensive portfolio of web handling solutions. This year Converttech is celebrating its 40th anniversary manufacturing outstanding products and is considered the leader in the narrowweb segment of our industry. We are proud the company has chosen partnering with Double E as the avenue to accelerating their growth in the coming years."

Converttech supplies web handling components to the narrow web industry. Its presence in narrow web complements Double E's technological knowledge in the converting industry. Larry Taitel, Converttech president, said: "The Converttech/Double E partnership is ideal for both companies. It allows us to leverage our combined advantages to deliver better products, technologies, and solutions to our customers even more rapidly."

Double E Company supplies engineered solutions for core chucks, core shafts, reel spools, safety chucks, core plugs and associated accessories to the global web handling industry. In 2016 it acquired Appleton Mfg, and Epoch Industries in 2015, broadened its product offerings to include core cutters, material handling solutions, salvage technologies and idler rollers.

ITALY

OMET and OT Lucca form joint venture

OMET has increased its market share after forming a joint venture with OT Lucca.

OMET said it will benefit from the experience of the Montecarlo di Lucca-based company, improving its range of new units and complete lines for tissue converting as well as widening its range for folded products.

The location of the company will also enable it to offer a quick and efficient service to clients in the area.

OMET will focus on the production of new lines dedicated to interfolded products at OT Lucca's site.

The move will also see it develop new high-performing personalised lines in response to customer demand.

OMET has increased its market share after forming a joint venture with OT Lucca. OMET said it will benefit from the experience of the Montecarlo di Lucca-based company, improving its range of new units and complete lines for tissue converting as well as widening its range for folded products.

Essity targets professional hygiene sector with Altopascio facility

Essity is to invest in a centre for napkin production and expand its professional hygiene footprint in Europe.

Based at its existing production site in Altopascio, Italy, the move will strengthen its product offering in the sector as well as increase the efficiency in its supply chain.

The investment will lead to

"restructuring measures at multiple production facilities across Europe" in the coming years.

The total investments will amount to approximately SEK 590m, of which the majority is related to the facility in Altopascio.

The move also includes restructuring measures that will see the closure of a converting production facility in Hlohovec, Slovakia, in 2020.



Joint venture: the new building of OT Lucca, where OMET will produce new lines dedicated to interfolded products

POLAND

Velvet Care acquired by private equity firm; starts up production of a PM in Klucze

Tissue manufacturer Velvet Care has been acquired by Abris Capital Partners. The private equity company has agreed to acquire a majority equity stake in the business, which manufactures brand-name, tissue-based personal care products, including hand tissues, toilet paper and kitchen paper towels.

It is the owner of the Velvet brand in Poland and has had more than 20 years of successful operation.

Some 500 staff are based either at the company's manufacturing facility in Klucze or at its commercial office in Warsaw.

The current company was established in 2013 but its origins date from 1897, including a period of 17 years under the ownership of International Paper and Kimberly-Clark.

The products of Velvet CARE are currently sold in 15 countries.

Artur Pielak, chief executive of Velvet Care, added: "For many years the Velvet brand has been the leader on the Polish market.

"Being a modern and successful organisation, the company is enjoying sustained popularity among consumers and synonymous with the highest quality of paper-based, personal hygiene products.

"We are delighted that we will be able to continue pursuing Velvet Care's strategic development in Poland whilst gradually building our position in export markets with the backing and experience offered by Abris."

Paweł Gieryński, a managing partner of Abris, said its strategy is to "transform the companies under our ownership into national and regional champions in their respective industries".

He said: "We have the same ambition for Velvet Care and propose to achieve that objective through a combination of organic growth and selective acquisitions.

Tissue manufacturer Velvet Care has been acquired by Abris Capital Partners. The private equity company has agreed to acquire a majority equity stake in the business, which manufactures brand-name, tissue-based personal care products, including hand tissues, toilet paper and kitchen paper towels.

"The company has recently completed a major capital expenditure programme which has substantially increased its production capacity; we will continue this programme while we seek to acquire other attractive, related businesses in the region."

The transaction remains subject to the standard approval from competition authorities.

In March, the company also started up production of a Valmet-supplied PM at its site in Klucze.

The machine has a width of 5.6m and is one of the largest and most modern machines in the Central and Eastern European market.

Following the investment, Velvet Care will produce over 100,000tpy of the highest quality hygienic tissue paper.

Abris Capital Partners also owns the Romanian manufacturer of tissue paper and hygiene products Pehart Tec.

GLOBAL

Södra announces price hikes in Europe; increases reflect "on-going imbalance in the global market"

Södra Cell has increased the price of its northern bleached softwood kraft (NBSK) pulp as "supply remains tight".

As of 1 April, the company's NBSK pulp has been increased in Europe to \$1,170/tonne.

Magnus Björkman, VP marketing and sales Södra Cell, said: "We continue to see very strong global demand while supply remains tight. This latest increase is a reflection of the on-going imbalance in the global market."

K-C highlights water sustainability with WaterLoupe launch

Tissue giant Kimberly-Clark has emphasised its commitment to water sustainability after launching WaterLoupe, an interactive, web-based tool for sustainable water management.

The company has partnered with research company Deltares to carry out the project.

K-C said it "monitors local freshwater supplies and consumption trends and generates actionable insights to mitigate local water risks".

The company said: "WaterLoupe tracks data on social, economic and climate factors impacting water availability within river basins and displays the information on a highly visual, user-friendly dashboard.

"The tool allows users to assess water risks for an entire watershed as well as specific sectors and sub-groups, such as industrial users, farmers and households, over a 30-year time horizon."

Deltares developed the dashboard based on a study of the Aburrá and Cauca Valley catchment areas in Colombia, where Kimberly-Clark operates manufacturing facilities.

Lisa Morden, global head of sustainability at Kimberly-Clark, said: "Clean water is one of the world's most essential natural resources. It's also a key input to Kimberly-Clark's tissue-making operations, and several of our mills are located in watersheds at high risk for water scarcity."

In Colombia, Kimberly-Clark is employing WaterLoupe to engage government authorities, farmers and other industries in discussions regarding local water use and vulnerabilities now and in the future.

"Ultimately, we hope to use this system to test the impact of different water management approaches on local water supply and consumption," Morden added. K-C plans to use the WaterLoupe tool in the high-risk river basins where it operates manufacturing facilities by 2022. Deltares is an independent institute for applied research in the field of water and subsurface.

Södra Cell has increased the price of its northern bleached softwood kraft (NBSK) pulp as "supply remains tight". As of 1 April, the company's NBSK pulp has been increased in Europe to \$1,170/tonne. Magnus Björkman, VP marketing and sales Södra Cell, said: "We continue to see very strong global demand while supply remains tight."

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Following the acquisition, Suzano is now the largest eucalyptus pulp producer worldwide. It is also the largest Brazilian company in the agribusiness sector and the fifth largest non-financial company in the country.

Suzano and Fibria merge in R\$36bn deal to form global pulp giant

Brazilian pulp producer Suzano Papel e Celulose has acquired Brazilian eucalyptus pulp producer Fibria in a deal worth R\$36bn.

The move has created a pulp giant with a 17% share of the global market of pulp producers.

With existing assets in Brazil and worldwide, the company now has 37,000 employees and contractors.

Its 11 industrial units will annually produce 11 million tonnes of market pulp and 1.4 million tonnes of paper.

Fibria is controlled by Brazil's development bank BNDES, which has 29.1% of the company as well as 6.9% of Suzano. Brazilian conglomerate Votorantim has a 29.4% share of Fibria. When asked how this will impact the tissue market, Suzano chief executive Walter Schalka told TWM:

earmarked for environmental preservation and conservation, and 59,000 hectares destined for other uses. The pulp produced by Fibria is exported to over 35 countries.

Following the acquisition, Suzano is now the largest eucalyptus pulp producer worldwide.

It is also the largest Brazilian company in the agribusiness sector and the fifth largest non-financial company in the country.

As for the tissue market, following the acquisition the company becomes the third largest manufacturer of sanitary papers in Brazil, with a prominent position in the North and Northeast regions.

Suzano has four tissue sites - Imperatriz (State of Maranhão), Mucuri (State of Bahia), Belém (following the acquisition of Facepa) and Fortaleza (following the acquisition of Facepa).

Suzano has also just announced the start-up of two tissue machines.

Supplied by Voith Paper, the double-

"The combination of Suzano and Fibria will create a company even more prepared to offer better products and services to the customers,"

Suzano CEO Walter Schalka

"Brazil is already a global reference in competitiveness and development of new technologies for the production of eucalyptus pulp.

"The combination of Suzano and Fibria will create a company even more prepared to offer better products and services to the customers, besides all the investments that it will be necessary to meet all the industry demands."

Fibria is a world leader in eucalyptus pulp production. It has an annual production capacity of 7.25m tonnes of pulp and industrial units in Aracruz (Espírito Santo State), Jacareí (São Paulo State) and Três Lagoas (Mato Grosso do Sul State), as well as in Eunápolis (Bahia State), where it operates Veracel in a joint operation with Stora Enso.

It has 1,056,000 hectares of forests, which include 633,000 hectares of planted forests, 364,000 hectares

width XcellLine VTM 4 machines have been installed at the company's plants in Imperatriz and Mucuri.

They will produce around 220 metric tonnes of paper per day at a speed of 2,000 metres per minute.

Amazon Papyrus increases prices following "significant increase in raw material, manufacturing, packaging, transportation and regulatory costs"

Amazon Papyrus Chemicals has increased its prices by 5-15% depending on the products.

The hike is in effect immediately, or wherever contracts allow.

The company said it was necessary due to "a significant increase in raw material, manufacturing, packaging, transportation and regulatory costs".

It added it will continue to "work proactively with our customers to further optimise applications related to process and functional chemicals".

Founded in 2000 and headquartered in Hong Kong, Amazon Papyrus is a specialty chemical company that has established a presence in 11 countries.

A.Celli launches Industry 4.0 business unit

A.Celli has launched its own Industry 4.0 Extreme Automation business unit to offer better efficiencies in the production system.

It uses new technologies dictated by the Industry 4.0 revolution and which the supplier said "yield a more immediate and concrete production optimisation during the individual process phases".

Developments catered to by the company's new Extreme Automation: Industry 4.0 division include:

Development of machine data collection and analysis platforms to:

- Implement predictive machine maintenance;
- Optimise production;
- Easily interface the machines with customer management software (ERP, MES).
- Introduction of innovative machine learning logics to optimise machine operation

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- DCS division;
- Development of new-generation DCS process controls for the paper field that;
- Optimise production in terms of quality and energy;
- Minimise operator intervention;
- Affords facilitated remote support oriented towards global control.
- Software applications Winders & Rewinders;
- Development of PLC and Drives software applications for the new winders and rewinders;
- Development of new-generation HMI machine interfaces.
- Packaging and System integration;
- Development of software systems to integrate Handling & Packaging with customer management systems;
- Development of integrated systems for automatic warehouses.

CHILE

Essity restructures in Chile; closes one tissue machine and

Essity is restructuring its production facility in Santiago, Chile, to strengthen its presence in the country's consumer tissue and professional hygiene segments. The tissue giant said the move is aligned with its strategy to "optimise the production footprint to increase cost and capital efficiency and further increase value creation".

two converting lines

Essity is restructuring its production facility in Santiago, Chile, to strengthen its presence in the country's consumer tissue and professional hygiene segments.

The tissue giant said the move is aligned with its strategy to "optimise the production footprint to increase cost and capital efficiency and further increase value creation".

The restructuring measures include the closure of one tissue machine and two converting lines, which amount to approximately SEK 140m in costs.

CHINA

Hengan International boosts capacity with Changji start-up

Hygiene and sanitary products

Hygiene and sanitary products manufacturer Hengan International has successfully started up its Modulo-Plus PM26 at its Changji mill in Xinjiang. Supplied by Toscotec, it is the second PM to be recently started-up at the site, boosting the company's capacity by 50,000tpy.

manufacturer Hengan International has successfully started up its Modulo-Plus PM26 at its Changji mill in Xinjiang. Supplied by Toscotec, it is the second PM to be recently started-up at the site, boosting the company's capacity by 50,000tpy.

As with PM25 which started up in November 2017, PM26 has a production speed of 1,600m/min and a width of 2.8m.

It is equipped with a single layer headbox, one large diameter TT SuctionPressRoll, second generation TT SYD with improved rib design, TT Milltech natural gas high efficiency hood and steam and condensate removal system.

The machine is now producing high quality tissue products.

processes 100% short fibre (eucalyptus) as raw material.

The centrepiece of the line is the ANDRITZ Papillon refiner.

Victor Coutinho, Carta Fabril chief executive, said: "We are now proud to have the world's largest Steel Yankee, which is predicted to enable efficient drying with substantial energy savings.

"Our target is "green production" by minimising energy consumption, liquid and solid waste, effluents, and CO2 emissions.

"The new tissue machine will use 100% renewable energy generated from biomass and converted into steam. The project presents a very good example of environmental, economic, and social sustainability."

Carta Fabril ranks among the leading players in the Brazilian tissue market.

Sepac boosts capacity with TM start-up

Latin American tissue producer Sepac has started up an XcelLine tissue machine in Brazil.

Supplied by Voith, TM6 is based at the company's Mallet plant in Paraná and will be used to produce tissue paper for sanitary products.

It has a design speed of 2,000m per minute and is able to produce 110 metric tonnes of paper per day.

The scope of supply included the entire machine which was fitted with a MasterJet Pro T headbox, a CrescentFormer, a NipcoFlex T shoe press, an EvoDry Y Steel plate Yankee cylinder, a high-efficiency EcoHood T hood and a MasterReel winder.

The project's main features are the NipcoFlex T shoe press and its 4.8m Steel plate Yankee cylinder, which the supplier said enables the machine to consume up to 20% less thermal energy. It is part of a growth strategy by SEPAC, which is focused on manufacturing

BRAZIL

Carta Fabril starts-up 22ft Steel Yankee; said to be world's largest Steel Yankee for tissue

Carta Fabril has started up its PrimeLineST W22 tissue machine, which supplier Andritz said has the world's largest Steel Yankee dryer for tissue.

It will produce tissue with grammage of 15 g/m2 that is used for two-ply toilet paper. The scope of supply also included the complete stock preparation plant and approach flow system, which

Latin American tissue producer Sepac has started up an XcelLine tissue machine in Brazil. Supplied by Voith, TM6 is based at the company's Mallet plant in Paraná.

Over the last ten years, Voith has supplied four tissue machines to SEPAC. Sepac is one of Latin America's largest tissue paper producers and has 40 years of experience in the domestic and international markets. Headquartered in the state of Paraná, the company is a market leader in tissue paper for sanitary products in Brazil's Southern region.

tissue paper from virgin cellulose fibres and increasing its production capacity to 180,000tpy, making it one of Brazil's largest tissue manufacturers.

Over the last ten years, Voith has supplied four tissue machines to SEPAC. Sepac is one of Latin America's largest tissue paper producers and has 40 years of experience in the domestic and international markets.

Headquartered in the state of Paraná, the company is a market leader in tissue paper for sanitary products in Brazil's Southern region.

Its towels, napkins and toilet papers are marketed in all regions of Brazil and the Mercosur countries under the Duetto, Paloma, Maxim and Stylus brands.

In 2017, Sepac also joined the personal care segment with the launch of its BabyBoo disposable diapers brand.

PAKISTAN

Hayat Kimya to expand global reach with \$150m investment

Hayat Kimya – the FMCG company of Turkish conglomerate Hayat Group – has launched a sales and marketing subsidiary in Pakistan.

The investment includes the introduction of tissue brands Papia and Familia into the market and will also include a future manufacturing premise. Hayat Kimya is headquartered in Turkey and has nine subsidiaries across the globe, including Pakistan.

Chief executive M. A. Kigili said: "Hayat Kimya has great confidence in Pakistan. Following our initial investment there we project to continue our investment of \$150m.

"We believe everyone around the world has the right to access good quality products. Therefore, we offer the same Hayat quality as in Turkey, to Pakistan." Hayat Pakistan general manager Erdem Dumanogullari added: "We will do our best to deliver the accumulated experience, high-quality, high-technology products brought by Hayat." The company has also launched its baby diapers brand Molfix into the market. Hayat Kimya has operated in the FMCG industry since 1987, manufacturing

raw material for production of various tissue products.

Andritz will upgrade the pulping process with a new detrashing system – comprising a FibreGuard Detrasher, a FibreWash Drum, and a Detrashing Pump – to increase pulp quality through early removal of non-disintegrated reject materials.

Metsä Tissue is part of the Metsä Group, one of the largest forest industry groups in the world.

The Mänttä mill produces toilet tissue, household towels, paper tissues, industrial tissue rolls, and greaseproof paper for baking and cooking.

MALAYSIA

K-C Malaysia boosts production capacity with

Metsä Tissue is modernising an existing DIP line at its mill in Mänttä, Finland, in order to increase its production output. The project will be carried out by Andritz and the new DIP line will supply the furnish for all three tissue machines at the site. It will process medium- to high-quality recycled paper grades to be used as raw material for production of various tissue products.

goods in hygiene, tissue and home care categories.

FINLAND

Metsä Tissue boosts production capacity

Metsä Tissue is modernising an existing DIP line at its mill in Mänttä, Finland, in order to increase its production output. The project will be carried out by Andritz and the new DIP line will supply the furnish for all three tissue machines at the site.

It will process medium- to high-quality recycled paper grades to be used as

slitter

Kimberly Clark Products Malaysia has invested in an upgrade of the combined rewinder at its Kluang Johor mill.

Supplied by A.Celli, it is the second step in the upgrade of an old TM1 A.Celli combined rewinder AC820 from the 1980s.

The project involved updating the slitting unit with modern knives, which the supplier said allowed the customer to improve the quality of the cut.

SPAIN

Essity to close La Riba site and Allo TM to further increase production efficiencies

Essity is to restructure its consumer tissue production in Spain after announcing plans to close its production facility in La Riba and close one of its tissue machines at its site in Allo.

It said the move was to further increase production efficiencies, to increase cost

Hayat Kimya – the FMCG company of Turkish conglomerate Hayat Group – has launched a sales and marketing subsidiary in Pakistan. The investment includes the introduction of tissue brands Papia and Familia into the market and will also include a future manufacturing premise. Hayat Kimya is headquartered in Turkey and has nine subsidiaries across the globe, including Pakistan.



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and capital efficiency, and to bolster its efforts in the consumer tissue segment. The restructuring measures will be implemented in 2018, with restructuring costs expected to amount to SEK245m.

INDONESIA

APP boosts capacity with Indonesian TM start-up; claims to be biggest Steel Yankee dryer ever manufactured for tissue

APP has successfully started up a Prodergy AHEAD-2.0L tissue machine at its Perawang mill.

Supplied by Toscotec, the supplier said its 22 ft diameter Steel Yankee dryer constitutes a world record: the biggest Steel Yankee dryer ever manufactured worldwide for tissue application.

The Perawang line is 5.6m width and has an operating speed of 2,000m/min. It features a second generation TT SYD-22FT and steamheated hoods.

It is one in a series of TMs to be installed at the company's Indonesian sites.

Toscotec said the design of its TT SYD 22ft and the steam-heated Yankee hood

Essity is restructuring its production facility in Santiago, Chile, to strengthen its presence in the country's consumer tissue and professional hygiene segments. The tissue giant said the move is aligned with its strategy to "optimise the production footprint to increase cost and capital efficiency and further increase value creation".

system with multiple energy recovery stages deliver the "highest dryness rate with minimum consumptions".

LATIN AMERICA

Fabio Perini launches Myperini in Latin America

Fabio Perini has launched its complete turnkey tissue converting and packaging line range Myperini.

The supplier said the range has "easy operation, high performance, technological excellence and reliability" and is suitable for manufacturers looking for production at speeds in the range of 450 to 800m/min.

It can be used to produce 1, 2 or 3 ply products and make embossed and laminated rolls for retail or private

label market.

For converting, the family is comprised of three versions suitable for different production needs: an entry level line, the MySincro (450 m/min); a mid-level, the MyLine (550 m/min) and a high level, the MyTime (800 m/min).

All the lines feature the possibility of completing the system by including the MyPack offer for packaging up to 200 packs/min and 20 bundles/min.



Reaching new heights: APP's new 22 ft Steel Yankee dryer is said to be the biggest ever manufactured for tissue

Import dominated, Thailand faces strong regional competition

The Kingdom of Thailand has the second largest economy in Southeast Asia after Indonesia. The World Bank classifies Thailand as an upper-middle-income economy. The CIA World Factbook ranked Thailand's economic GDP as 21st in purchasing power parity with exports accounting for about two-thirds of this value. Their economy grew at an estimated rate of 3-3.7% from 2015 to 2017, and Thailand's population is ranked as 20th in a world with over 68 million people, growing at 0.3%.

Figure 1, derived from FAO data, shows Thailand's overall tissue exports have been flat in the last three years, while imports represent greater volume and growth. Figure 2 shows the three-year average exports are well dispersed, with Australia the largest customer. Import activity in Figure 3 is focused on Indonesia providing most of the off-shore production.

The scale in Figure 3 is 9X the scale in Figure 2. This large import focus will be relevant in examining the evolution of Thailand's domestic capacity. Most of Thailand's tissue exports are finished products while over half of imports are jumbo rolls for converting.

Figure 4 shows the location of Thailand's seven tissue mills clustered near the Gulf of Thailand and the capital Bangkok. Owners of these mills are Berli Jucker Group; Kimberly-Clark Corp.; RiverPro Pulp & Paper Co.; and Wang N.T. Paper Co. The integrated recycled fibre sites are green circles and the non-integrated sites are blue triangles.

Consumer product grades are the focus of Thailand's tissue business. Most of this production is based on recycled fibre as shown in Figure 5. Several of the sites are integrated with recycled

pulp production. Figure 6 provides a more detailed look at Thailand's tissue furnish by product type. Consumer bath tissue is the largest product format and deinked fibre is the most common furnish with some kraft pulp. Consumer facial is the next largest product, and kraft pulp is the most common furnish type using mostly hardwood.

Consumer towel products use both deinked and virgin fibre. The virgin kraft furnish is about half softwood in contrast to the other grades where hardwood predominates. Consumer napkin is the smallest product category. The primary furnish for napkins is deinked fibre as in bath tissue.

Thailand's tissue capacity has grown at annual rate of 3.28% in the last 12 years through new mills and tissue machines. Figure 7 shows three new mills or sites added between 2013 and 2014. Wang N.T. Paper Co., entered production with their Lopburi Mill, and RiverPro Pulp & Paper Co. added the Nong Khaei and Taeparak Mills in 2014.



These mill additions brought the total number of tissue machines up to 15 in 2016 before the shutdown of the tissue machine #1 at Kimberly-Clark's Samutprakarn Mill in 2017. Figure 8 shows the net change resulted in a total of 14 operating machines in 2018.

Figure 9 shows the tissue capacity curve effects as larger machines came on-line replacing a smaller line. This represents a 3.28% CAGR (Cumulative Annual Growth Rate) over the period shown for 191,949m tonnes per year in 2018.

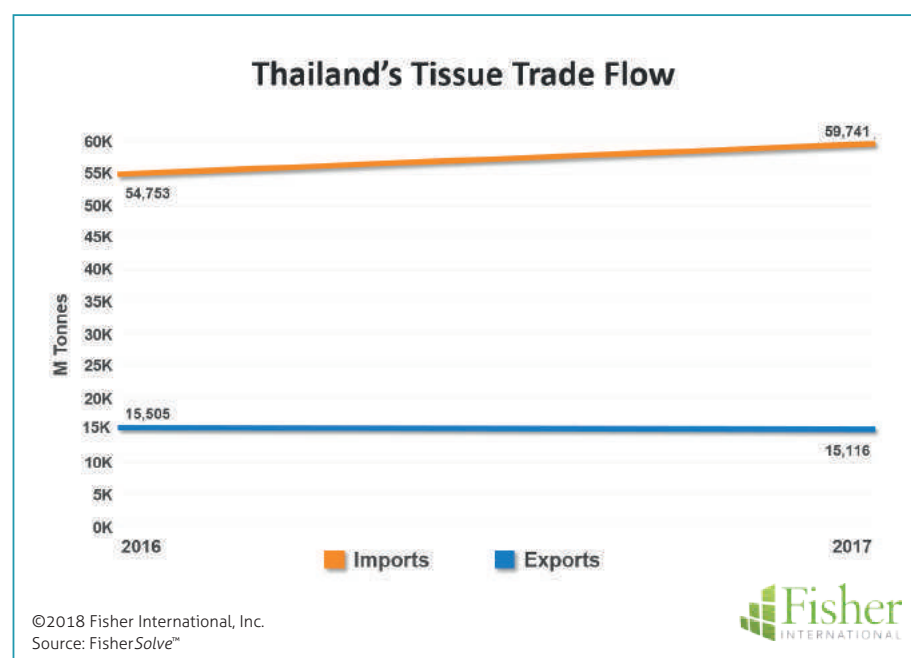


Figure 1: Thailand's T&T trade Flow

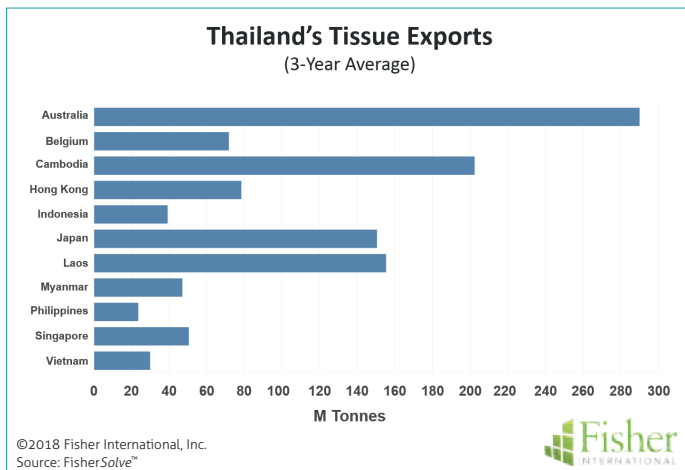


Figure 2: Thailand's tissue exports

Figure 10 provides an average manufacturing cash cost and cumulative production ranking by country in the Asia Pacific Region. Looking at Thailand's tissue industry relative to the rest of the region, Thailand tissue mills represent a relatively small portion of the overall production in a region where China produces the largest amount. However, Thailand's average

cash cost position looks good, positioned just after the larger Indonesian capacity costs.

Figure 11 shows another way of rating production capability between countries in the region. The cash costs of Figure 10 are replaced by the Fisher International Viability Index that takes into account not only the cash costs but the capital required, size, technical age, and productivity of the mills and machines relative to the region. Here we see that Thailand is falling behind as other countries in the region are expanding their tissue capacity faster with newer and more productive equipment.

Figure 12 shows another method of evaluating Thailand's tissue business relative to the overall Asia Pacific Region. This chart uses the same format as the Figure 10 (Costs) and Figure 11 (Viability) but now examines the Asian Pacific Tissue industry by country regarding Total Carbon Emissions. Carbon emissions are expressed as MT CO₂ eq per tonne of tissue production. Total emissions include raw materials, fossil fuel consumption, and purchased electricity. Carbon emissions are becoming a viability factor in some regions. This chart looks similar to

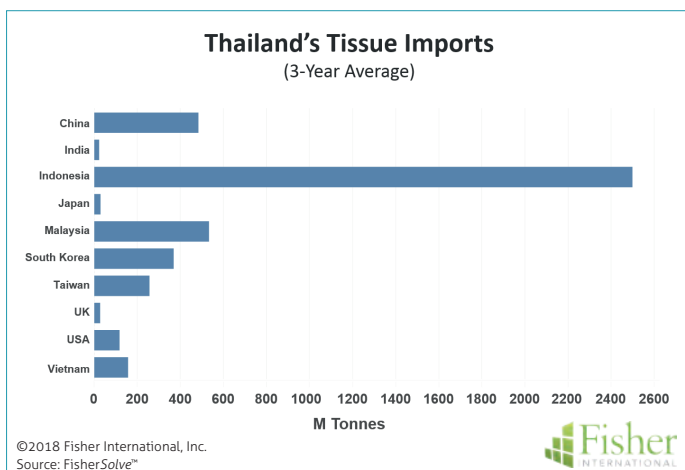


Figure 3: Thailand's tissue imports

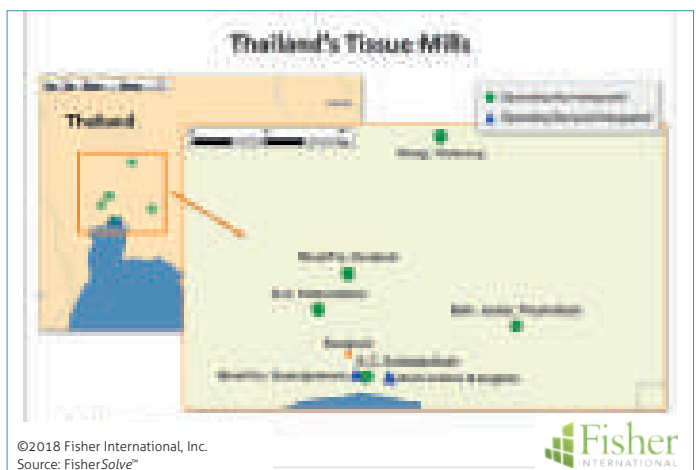


Figure 4: Thailand's tissue mills

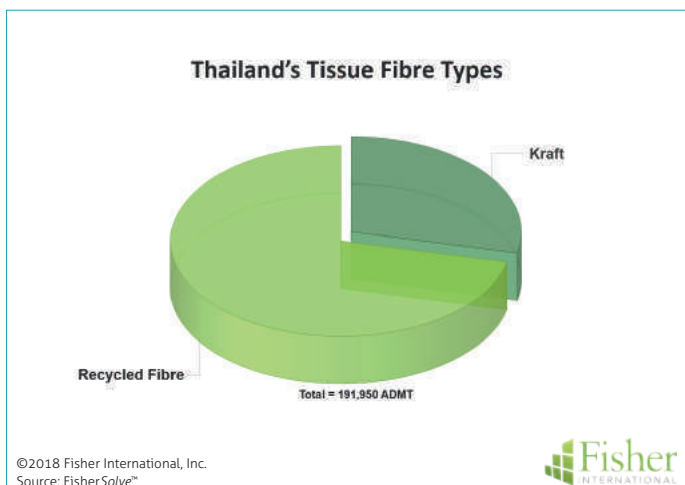


Figure 5: Thailand's tissue fibre types

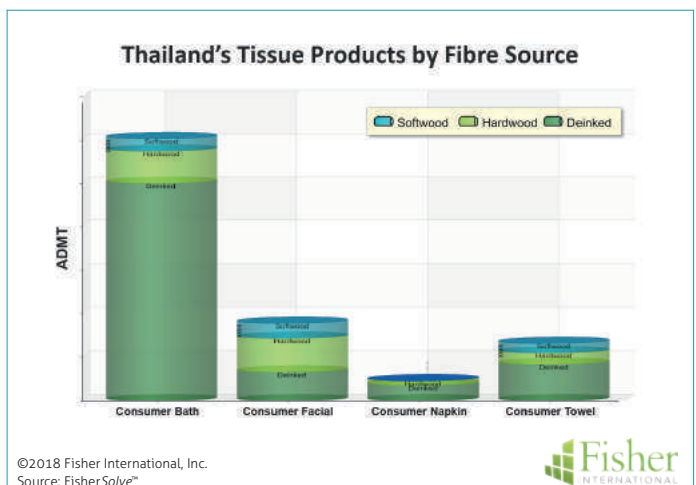


Figure 6: Thailand's T&T products by fibre source

Figure 11 indicating that some of the components of carbon emissions are related to technical age and productivity factors.

Conclusions

Thailand's tissue industry is based mostly on recycled fibre and focused on the consumer product grades. Tissue exports are small but imports, primarily parent rolls, exceed 30% of the domestic production. Current manufacturing cash costs are lower than average in the Asia Pacific Region, but viability and carbon emission curves suggest that domestic production can expect more pressure from parent roll imports. Indonesia would likely continue to be a major source of parent rolls and possible converted products.

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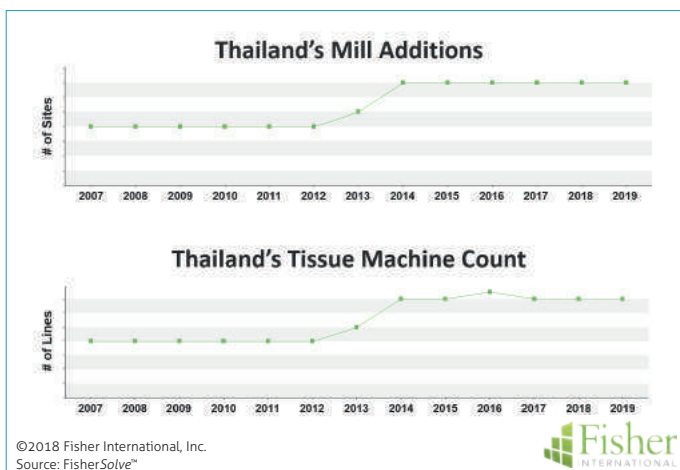


Figure 7 & 8: Thailand's mill additions and tissue machine count

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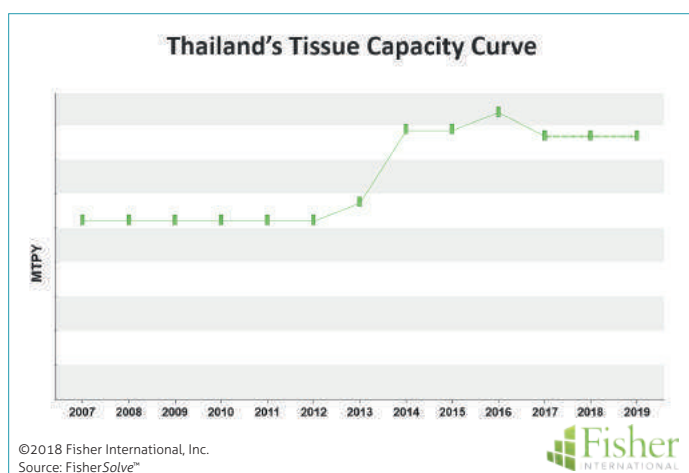


Figure 9: Thailand's tissue capacity curve

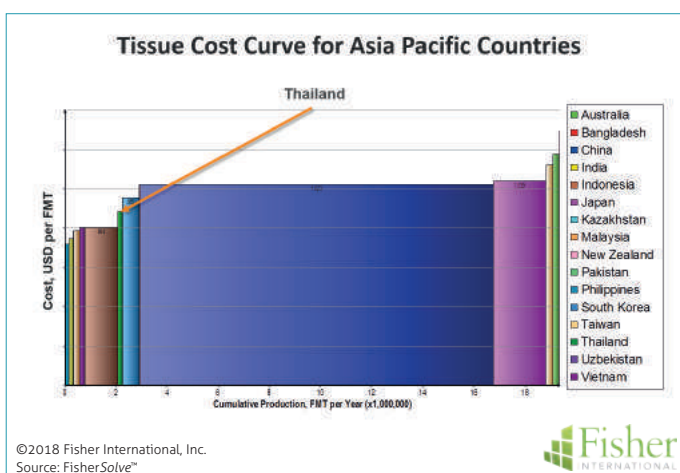


Figure 10: Tissue cost curve for Asia Pacific countries

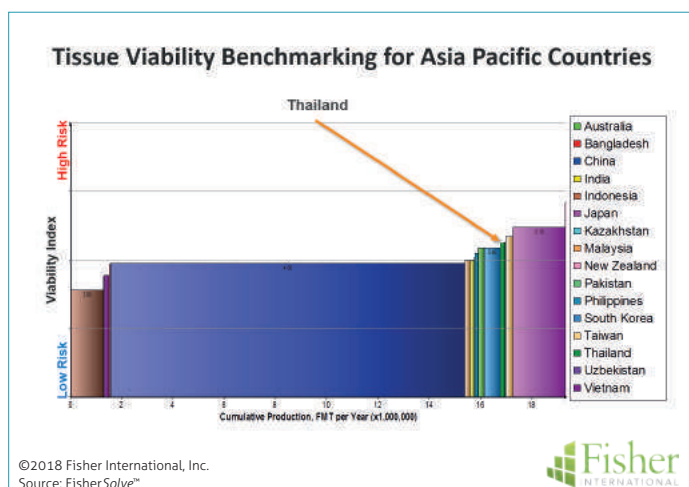


Figure 11: Tissue viability benchmarking for Asia Pacific countries

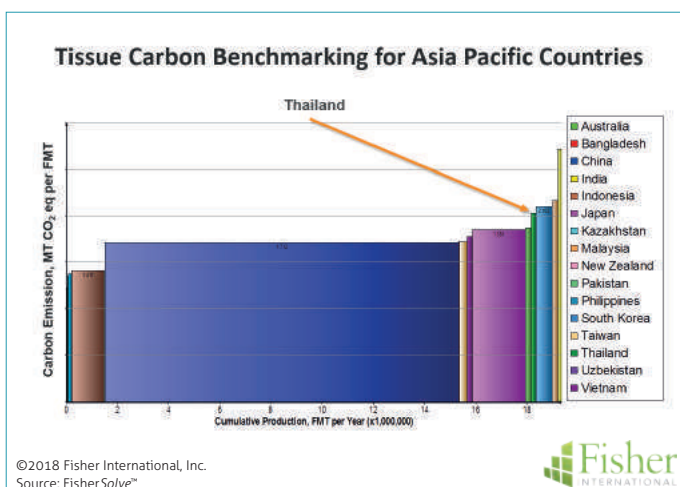


Figure 12: Tissue carbon benchmarking for Asia Pacific countries

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Tissue use poised for a big stride forward in Thailand

With lower tissue consumption per capita than its neighbouring countries in 2017, Thailand still has much room for growth to fulfil its potential. Demand for retail and AfH tissue is set to rise due to various factors such as increasing private consumption, urbanisation and government initiatives to boost tourism. Furthermore, strong value growth for retail tissue is also expected, driven by increasing disposable incomes and premiumisation.

Positive outlook expected for the economy

Public investments stimulated real GDP growth at 3.9% in 2017, which led to consumers enjoying higher disposable incomes that grew at an average annual rate of 2.8% and ensured that the unemployment rate remained low at 1.2%. The higher consumer confidence coupled with the urbanisation trend

in Thailand resulted in an increase in private consumption by 3.5% in real terms. As city-dwellers generally have more sophisticated tastes and look for premium products to improve their overall quality of life, they are keen to invest in premium tissue products given that the additional values justify their higher price tags. Some instances of those values include perceived higher quality, thicker and tougher tissue fibre in order to provide added convenience to their busier urban lifestyles.

Retail tissue volume growth in Thailand hit 4% in 2017 as a result of the growing economy and urbanisation, since tissue products are widely available and are

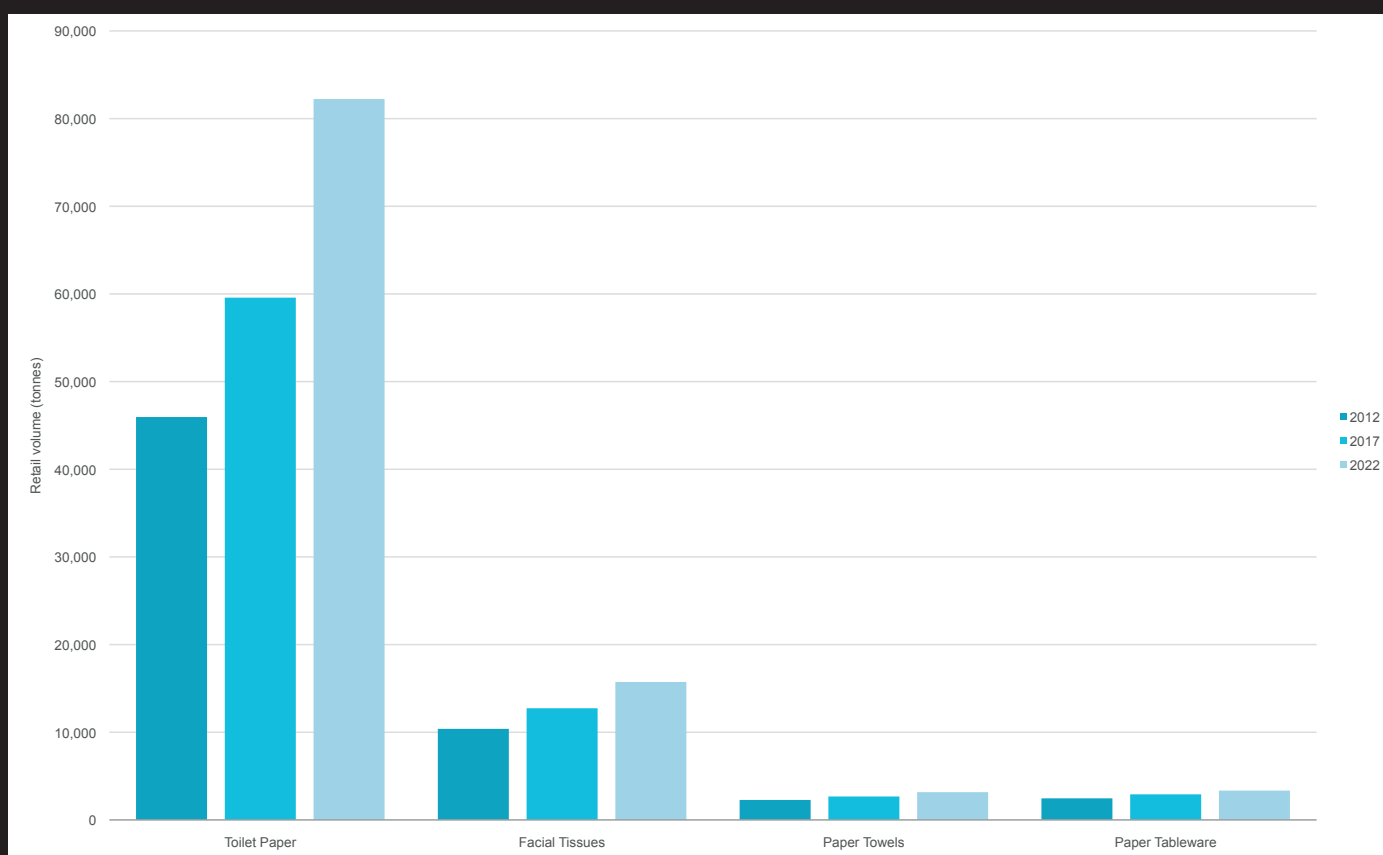


Gilbert Lai



Research analyst,
Euromonitor International

As city-dwellers generally have more sophisticated tastes and look for premium products to improve their overall quality of life, they are keen to invest in premium tissue products given that the additional values justify their higher price tags.



With higher disposable income in urban areas and the premiumisation trend, value growth of retail tissue in Thailand reached 5% in 2017. These trends present opportunities for facial tissue, which is perceived as a premium product for the higher income group.

relatively more affordable in the richer urban areas. Toilet paper is by far the most popular tissue product, accounting for 76% of the total retail tissue volume in 2017. Within households in Thailand, toilet paper is used not just for bathroom trips, but also serves multi-purpose roles such as facial and surface cleaning due to cost savings and convenience. Consumers in Thailand are price-conscious especially for high-usage tissue products, justifying toilet paper's dominance in retail volume. This is also evident where leading brands such as Scott, Cellox and Zilk compete mainly on price and promotions, seeking to offer products of reasonable quality at competitive prices to attract low and middle income consumers.

On the other hand, retail paper towels is the smallest category, with just 3% of retail volume sales due to being a relatively new product for Thai consumers. The category only saw the entrance of brands such as Smart-R and Pinn Tissue in recent years. Although still regarded as optional, paper towels are increasingly being used by urban consumers, as they are touted to be thick and highly absorbent to effectively clean up surfaces and soak up oil during food preparations. In light of healthy living trends and busier schedules of city-dwellers, these additional benefits are valued by the time-strapped consumers. Hence, growth potential of paper towels is expected to be high, provided that manufacturers are able to communicate those benefits well.

With higher disposable income in urban areas and the premiumisation trend, value growth of retail tissue in Thailand reached 5% in 2017. These trends present opportunities for facial tissue, which is perceived as a premium product for the higher income group. For example, consumers in Thailand provide guests with boxed facial tissues that are more

presentable compared to toilet paper. In addition, boxed facial tissues are also frequently used in offices and cars. In an attempt to attract younger consumers and encourage the habit of using facial tissues, Smart-R targeted younger consumers with licensed characters such as Hello Kitty on its boxed facial tissue. Hence, we can expect greater variety of tissue products with different properties such as scent, thickness and material, as manufacturers try to gain larger market shares.

Government's pro-tourism policies boost demand for AfH tissue

The most important drivers of growth in demand for AfH tissue are the increasing numbers of tourists in the country, including both foreign visitors and domestic travellers, as well as strong growth in consumer spending through the retail and consumer foodservice industries. The Thai government's focus on stimulating economic development through tourism has seen widespread construction of new hotels, shopping centres and entertainment facilities. In 2017, the total number of visitor arrivals to Thailand and real value of tourist receipts rose by 9% and 8%, respectively. In order to present a premium positioning to tourists and local consumers, horeca establishments are investing in higher quality AfH tissue products such as napkins and wipers, bearing their own printed labels. Affected by rising production costs and premiumisation, AfH tissue products are expected to see an increase in unit prices.

Within the retail tissue landscape, Thailand has relatively low tissue consumption at 1.1kg per capita in 2017, compared to Malaysia and Vietnam's retail tissue consumption rate

of 1.7kg per capita and 1.4kg per capita, respectively. With an estimated unmet potential in retail of over 156,000 tonnes, the different variants of tissue products remain far from maturity due to low penetration among low-income communities, especially in rural areas. Rural areas throughout the region maintain more traditional habits of using water and washable cloths as they are cheaper compared to tissue products. In addition, rural areas are also harder to reach through mass media outlets as sales are generated mainly through local convenience stores and small independent grocers. Thus, the low penetration rates of tissue products among the low-income communities and rural areas present strong growth opportunities for manufacturers, given the right promotion and pricing strategy.

As illustrated by Euromonitor International's Industry Forecast Model, retail tissue is expected to record a volume CAGR of 6% with three main growth drivers. First, GDP per capita is expected to continue growing, which will result in higher disposable incomes for consumers and a greater willingness to invest in tissue products that can improve their daily lives. Second, competitive pricing, discounts and promotions from retailers will continue to encourage volume growth, albeit having a drag on value growth. One key area that is likely to be a key site of innovation during the forecast period is the introduction of more ecological and organic products that are gentle to the skin. For example, Pinn Tissue focuses on promoting its unbleached and eco-friendly tissue to serve the needs of the environmentally-conscious consumers in Thailand. Although still considered niche products in Thailand, increasing awareness of environmental issues and the type of products that consumers apply on their skin is likely to create higher demand over the forecast period. Lastly, manufacturers should promote and educate consumers on the functional benefits of their tissue products such as increased convenience, better hygiene practices, and the ease of use compared to traditional methods.

Kimberly-Clark – Thailand's prospects are strengthening

As urbanisation increases, so does demand for more varied and sophisticated tissue products. The tissue giant tells TWM why it has growing confidence in its Thai and Asian tissue operations.

Kimberly-Clark (K-C) holds the leading position in Thailand's tissue market. It operates solely in the country's consumer market with its two tissue mills and also services a large number of businesses through its Kimberly-Clark Professional unit. The two sites also export to other markets in the Asia Pacific region. Here, TWM interviews the company about the new trends and innovations that are impacting the market, and how they're responding.

TWM/1: What percentage tissue growth are you seeing annually in Thailand and why is this?

K-C Thailand spokesperson: "We are seeing mid-single digit growth in Thailand. The growth is a result of Thailand's strengthened economy, political stability, improving consumer sentiment, rising incomes and increased consumer sophistication."

0

Helen Morris

Senior Editor,
Tissue World magazine

Consumers are becoming more sophisticated and are demanding products that meet their lifestyle needs. They are seeking more convenience and want specialised solutions for specific problems. In addition, consumers want and expect innovation in packaging formats as well as the tissue itself.



Tissue leader: Kimberly-Clark Thailand's production sites produce sophisticated tissue products with innovative packaging formats

By Tissue World Senior Editor Helen Morris



Modern innovations: K-C's Kleenex Skincare lotion-treated facial tissue is infused with aloe vera natural extract, catering to beauty-conscious consumers

TWM/2 : What are the key trends you're seeing in the Thai and Asian tissue market?

K-C: "Consumers are becoming more sophisticated and are demanding products that meet their lifestyle needs. They are seeking more convenience and want specialised solutions for specific problems. In addition, consumers want and expect innovation in packaging formats as well as the tissue itself."

"We offer a variety of product formats that address our consumers' needs on different occasions, from the traditional box format to portable formats like the soft pack and pocket pack."

TWM/3 : Are environmentally-friendly products popular in Thailand?

K-C: "Thai consumers are becoming more environmentally conscious and the demand for eco-friendly, high-performing products is growing."



Compact: the Scott's Extra Bath Tissue is available in a six-roll format, as well as being FSC-certified

TWM/4 : What are the key tissue packaging trends you're seeing in Thailand and Asia, and how are you responding to this?

K-C: "We are seeing increased environmental consciousness in tissue packaging trends. Kimberly-Clark has been partnering with the Forest Stewardship Council (FSC) and a very high percentage of our tissue products are FSC-certified."

"FSC is considered a "gold standard" in forest certification and assures the fibre in these products comes from responsibly managed forests."

"We are also seeing more interest in the health and wellness space and are pursuing innovation in this area. For example, our Kleenex® Skincare lotion-treated facial tissue is infused with aloe vera natural extract, catering to beauty-conscious consumers who seek products that pamper their skin."

"With increasing urbanisation and shift towards a city lifestyle, consumers' consumption requirements are changing, and we are evolving our products to meet these needs."

"We are seeing increased environmental consciousness in tissue packaging trends. Kimberly-Clark has been partnering with the Forest Stewardship Council (FSC) and a very high percentage of our tissue products are FSC-certified. FSC is considered a "gold standard" in forest certification and assures the fibre in these products comes from responsibly managed forests."

By Tissue World Senior Editor Helen Morris



Compact and modern: K-C's tissue products address Thai customer's preferences for a practical and multi-tasking product, whilst also offering fun packaging designs featuring the Disney Tsum Tsum characters

TWM/5: How is the Thai economy impacting tissue demand?

K-C: "After a long period of turbulence, Thailand has maintained political stability for the past few years. As a result, the economy has strengthened and consumer confidence is improving.

"We believe that this will drive penetration and consumption of the tissue market."

TWM/6: How is the Thai tissue market influenced by China's? Are you seeing many similarities there in terms of consumer or packaging trends?

K-C: "Kimberly-Clark is focused on meeting the needs of Thai consumers by providing them with innovative solutions. We regularly review our innovation portfolio from all over the world and launch products that meet Thai consumers' needs. We also develop products that are unique to Thailand.

"Our Scott® Extra Bath Tissue is available in a compact six-roll format that addresses our consumers' concern on the storage space required for a bulky item like tissue. Disney Tsum Tsum, a puzzle-format game available on social messaging service LINE, is extremely popular among Thai consumers.

"Our facial tissue products that feature the Disney Tsum Tsum characters on the packaging have been very well received."



"Kimberly-Clark is focused on meeting the needs of Thai consumers by providing them with innovative solutions. We regularly review our innovation portfolio from all over the world and launch products that meet Thai consumers' needs. We also develop products that are unique to Thailand."

Thailand's first tissue mill poised to reap rewards of a new future

Half the population of 68 million doesn't use tissue. But a boom in tourism, urbanisation and an ageing society is changing that, explains Dr. Sumrit Yipyintum, MD of RiverPRO. Report by Helen Morris, Senior Editor, Tissue World magazine.

TWM (unwittingly) arrives in Bangkok on the first day of Songkran, the country's fabulous water festival that sees thousands of locals and tourists taking to the streets with giant colourful water guns and buckets brimming with cold water.

The festival celebrates the Thai New Year by encouraging everyone to drench each other, and passers-by, with water. It is impossible not to get involved, even when not equipped with a giant water gun or cold water bucket.

Great fun apart, the festival signifies something more deeply reassuring

for the country. Walking around Bangkok with its thousands of tuk tuks transporting the revellers past magnificent temples and pop-up food stalls, the street level atmosphere is underpinned by a widespread sense of optimism and stability.

While the current political situation continues to be unpredictable, May 22, 2018 will mark four years since the Thai military took control of the government in a coup.

Since then, the economy has been slowly strengthening, as has consumer confidence. And crucially for the country



Helen Morris

*Senior Editor,
Tissue World magazine*

and its tissue industry, attendance at events such as Songkran also signals the return of tourism, a big source of growth.

TWM is in Bangkok to meet Dr. Sumrit Yipyintum, the managing director of RiverPRO, the first tissue mill to operate in Thailand, and now a leading force. Speaking in excellent English, he is



RiverPRO's Saraburi plant: the company's second plant is home to Andritz and Valmet tissue machine and converting facilities

friendly, humorous, and well-informed, talking at length about the Thai and regional tissue markets.

RiverPRO is a family-run company, established in 1966 when it faced an extraordinary challenge: "Tissue was considered a luxury product then. So to introduce tissue to the market we had to educate people so that it became a habit."

That traditional early usage continues: "Today in Thailand, toilet paper is used in a variety of ways, including in the bedroom as facial tissue, and also on the dining room table. My parents helped to introduce the idea that it can be a very practical and multi-tasking product."

Today, diversifying tissue products and usage is seen as a key step. With a population of 68.86 million people and 5-6% growth in tissue demand year-on-year, Thailand's tissue market has the potential. And yet ... only one international player operates here, Kimberly-Clark, naturally as the market leader.

Second is local player Berli Jucker Cellox, and third RiverPRO. All have two sites each and in total claim 95% of Thailand's tissue market. The only other player is Wang Paper, which has one site.

Consumption per capita is low, and it is in the anticipated adoption of new tissue habits as the country becomes increasingly urbanised and aged, plus the significant return of tourist numbers, that growth is projected.

Dr. Yipyintum pinpoints one of the challenges: "The people in rural Thailand don't use tissue, it's simply not a habit they have as they still use water. I'd say more than half of the population here isn't using tissue.

"However, the Thai's lifestyle is changing, people are looking for more convenient and hygienic ways as they become more urbanised. So there's plenty of opportunity for the industry to grow."

The country is also ageing fast. According to the Bank of Thailand, by 2022 it will be the first developing country to become an "aged" society, with more than 14% of its population over 65.



Above: Dr. Yipyintum's grandfather and father at the grand opening of the factory in 1966

How will the country's tissue industry react? Dr. Yipyintum says it will be to invest and diversify products to respond to the consumer's need.

RiverPRO's first tissue mill is located in the south of Bangkok, while the second is in the province of Saraburi,

around 80km north of Bangkok. In total, they produce around 165tpd of toilet paper, facial tissue, paper towels and napkins, as well as the "mini napkin", a pink 10x10cm product that RiverPRO initiated into the Thai market. "We reduced the size, and made it cheaper to penetrate the market," he adds.

Today, diversifying tissue products and usage is seen as a key step. With a population of 68.86 million people and 5-6% growth in tissue demand year-on-year, Thailand's tissue market has the potential. And yet ... only one international player operates here, Kimberly-Clark, naturally as the market leader.

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By Tissue World Senior Editor Helen Morris



Thailand's tissue pioneers: Dr. Sumrit Yipyintum celebrates the company's 50th Anniversary

In 2014, the company boosted its production capacity by investing in a 25,000tpy TM at the Saraburi site. Originally manufactured by Valmet, it has a width of 3.1m and an operating speed of 1,200m/min.

The company also has a 2.7m Andritz line with a total capacity of 54,500tpy, as well as three converting lines for toilet rolls and kitchen towels, three converting lines for industrial rolls, a converting line for napkins, and 10 folding machines for interfolded products, facial tissue and hand towels. Around 55% of the company's production is from recycled paper while the rest is made from virgin fibres.

The company's products are sold into three different markets: 50% of its production is in consumer, 40% in the AfH market, and the remaining in private label.

Following the entrance of large hypermarket chains into Thailand and a vast expansion in the number of their stores over last 15 years, private label products have been introduced into the market and are becoming increasingly popular: "Private label is currently around 800 million baht a year, around 10% of the total industry. We are a main producer and work closely with the stores to provide better services for their growth, but its growth will be slower than in the past."

Dr. Yipyintum has also completed a PhD in organisation's sustainable development, which he is implementing at the company's sites. "We have set our very long-term target for RiverPRO," he says. "We would like to celebrate our 100th year of establishment. Therefore, in order to successfully hand over the company to the next generation, these three parties have to be happy; employees, customers and communities, and shareholders."

The company has committed to its shareholders and employees, as well as to the preservation of the environment. The wastewater treatment system at its Samutprakarn plant allows the mill to recover up to 98% of the water used during the manufacturing process. In addition, the mill also offers its expertise in water treatment to the community to clean up the water in the canal, which is located at the back of the site.

An increased popularity of environmentally-friendly products in Thailand also holds potential: "I think many consumers still believe that the

Following the entrance of large hypermarket chains and a vast expansion in the number of their stores over last 15 years, private label products have been introduced into the Thai market and are becoming increasingly popular. Private label is currently around 800 million baht a year - around 10% of the total industry.



Eco-friendly tissue: the company's Pinn Natural is made from specially sourced pre-consumed waste paper

tissue industry has to cut down forest in order to make the product. They are concerned that by buying tissue products, they are compromising their hygienic and environmental concerns. So we are trying to promote recycled products so that the consumers don't feel guilty about using them.

We want to initiate this mindset and lead the market. We were the first company to introduce unbleached products here with our Pinn Natural brand for consumer market and RiverPRO brand for the AfH market."

In the next few years, Dr. Yipyintum plans to invest in training the company's 800 employees as well as invest in any technologies that can help it to improve its production cost. "Our marketing strategy is to offer value-for-money products, even though the industry is facing price volatility," he adds.

"We will have enough tissue capacity for what we need, so for the next few years we will focus on looking at any technologies that can help us use energy and resources more efficiently to improve productivity and reduce production costs, including an automatic converting line, while fostering our employee capability by training and development."

As the company is facing increased costs, especially from raw materials, Dr. Yipyintum says it's quite a tough situation: "There has been a lot of price pressure, and it's impossible to pass them onto customers so we have to absorb these costs. It's very difficult


to know which way pulp costs will go, especially from China and waste paper.

"Thus, at this moment, we are looking internally at all sectors and focus on improving efficiencies. It's key for us."

"We will have enough tissue capacity for what we need, so for the next few years we will focus on looking at any technologies that can help us use energy and resources more efficiently to improve productivity and reduce production costs, including an automatic converting line, while fostering our employee capability by training and development."



Production boost: The 25,000tpy TM from Valmet at the Saraburi site installed in 2014



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Berli Jucker Cellox has invested in the best technology to target growth potential

Rising numbers... in population, tourism, retail stores, personal income and a strong economic performance gives the Bangkok-based manufacturer confidence for the future. A TWM report.

TWM/1 What tissue markets do you operate in in Thailand and is there much growth?

"Berli Jucker Cellox operates in all markets and we're seeing growth across all of the tissue markets in Thailand. In particular, AfH and private label are playing a significant role.

"We produce toilet paper, facial tissue, napkin or multi-purpose paper. With a commitment to increase quality, the company has expanded production lines to be the leader in the tissue market by using advanced technology machines from European countries.

"With advanced technology and equipment from the best manufacturers in the world together with systematic production line, we make paper that can be manufactured

to meet customers' needs about size, length, perforate mark, fragrance and pattern. We also have ISO 9001, ISO 14001, OHSAS18001 certifications and are allowed to use the green label on approved products.

"The average market growth in Thailand is around 4.7%, while usage per capita is still low compared to other developed countries. This is largely because more and more people in Thailand are having better access to disposable income and so buying more and better-quality products.

"The raising of income per capita and numbers of convenience stores are also changing the life style of new generations, which is resulting in higher demand of tissue consumption. We're also seeing more and more demand for environmentally-friendly products popular in Thailand."



Investment potential: more Thai people have better access to disposable income, and so demand for higher-quality products is increasing

By Tissue World senior editor Helen Morris

**Commitment to quality:** the company has expanded its production lines

TWM/2 ; How many mills do you have in Thailand?

"We have two mills in Thailand with production capacity of 50,000tpy, providing products for customers both locally and internationally.

"The market here has four key players – Kimberly-Clark, RiverPRO, Wang Paper, and CPC - with approximate total capacity of 150,000tpy.

"Currently we are exporting to neighbouring countries i.e. Lao, Cambodia and Myanmar."

TWM/3 What are the key trends you're seeing in the Thai and Asian tissue market?

"We are seeing more and more good potential due to the increasing number of the population as well as strong economic growth. Growth in the tourism business also means that tissue consumption is significantly and steadily increasing."

TWM/4 What are the key tissue packaging/ packaged product trends you're seeing in Thailand and Asia, and how are you responding to this?

"The facial and napkin tissue in soft packaging are growing significantly. However, toilet roll tissue still shares the major portion in total market."

TWM/5 How is the Thai tissue market influenced by China's?

"Tissue from China doesn't impact the Thai market very much. The Thai market prefers quality and a variety of products."

TWM/6 What plans do you have to grow and invest in the future?

"To keep up with the growth in demand we are seeing in Thailand, we are planning to expand capacity in the next few years."

**Export potential:** the company is exporting to neighbouring countries



For this creative cook the kitchen roll smooths away any spillage disasters

Charlie is a Bristol, UK-based food blogger and content editor who also runs a pop up pudding (dessert) club. When she isn't eating or writing she can be found in the pub enjoying a beer or two. See her blog at: <https://bedsitbonnevivante.com/>

As a keen homecook I am usually not that far away from some sort of spillage disaster. Each spill has its own problems, fatty oil or butter tends to smear, sugar gets everywhere then disintegrates to grainy paste when you try and wipe it up with anything wet, and liquid takes more absorption power than you ever realise.

To combat all of this, kitchen roll is always on hand in my house. I have never been keen using a sponge on my surfaces due to the sort of nasties that might be lurking on it so, a few sheets and a decent kitchen cleaner is all I need to return my kitchen to a decent state after throwing food around in another creative whirlwind.

I always look out for recycled paper with the highest sheet count so my money goes further (I spill a lot!) and my conscience is clear when I use it.

"As kitchen towels are so versatile and adaptable, we don't just use them in the kitchen. We also use them in the bathroom for some small cleaning or drying."

I also love that kitchen roll can be compostable, unlike the kitchen (and bathroom) wet wipes that clog water pipes and sewers. I am happy to throw used paper in the bin and not worry about impacting the environment negatively.

As a food blogger, I also take photos of my cooking successes (and sometimes failures!) and that all important smarten up before I whip out the camera phone is easily done with a sheet of wet towel.

Napkins also serve a double purpose, they can make a photo pop when arranged under a dish or cutlery, and provide a great makeshift notepad when dining out for a restaurant review (or something to doodle on if your date is incredibly boring!)

Like a jaunty tie, you can tell a lot about someone by their paper napkins... life is far too short for white or black if you ask me. My household also goes through plenty of toilet roll; while wet wipes provide a feeling of freshness, due to the ambiguity of whether these are actually flushable and if they're causing problems with the water sewerage systems down the line, I don't use them that frequently.

To counteract this I like to spend a bit extra on very nice toilet paper. I just came back from Canada and was dismayed at how thin and sad the toilet paper was there and was grateful to come home to the sort of paper that is high quality and that feels almost like a duvet. As for my kitchen, I like a paper that is the thickest I can find and that's been infused with balms and oils to make it as luxurious as possible.

Like the planet, we only get one chance at this so we should try and look after it and ourselves as much as we can! Luckily I have access to the paper products I need to do both.

"My household also goes through plenty of toilet roll; while wet wipes provide a feeling of freshness, due to the ambiguity of whether these are actually flushable and if they're causing problems with the water sewerage systems down the line, I don't use them that frequently."

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Packaging, Wrapping & Logistics: Technical Theme

The global packaging machinery market is estimated to be worth €35.6bn in 2020. Here, our Technical Theme brings you a selection of some of the most recent innovations and the trends behind them. TWM spoke to packaging machinery manufacturers Macdue, Stax Technologies and Fabio Perini and asked them to explain why they believe their product is breaking new ground. A TWM report.

Global packaging market set for huge gains

Advances in Asia (or developing nations) are providing a new surge to the already impressive value of the world packaging market – projected to reach €984bn by 2024. By Macdue.

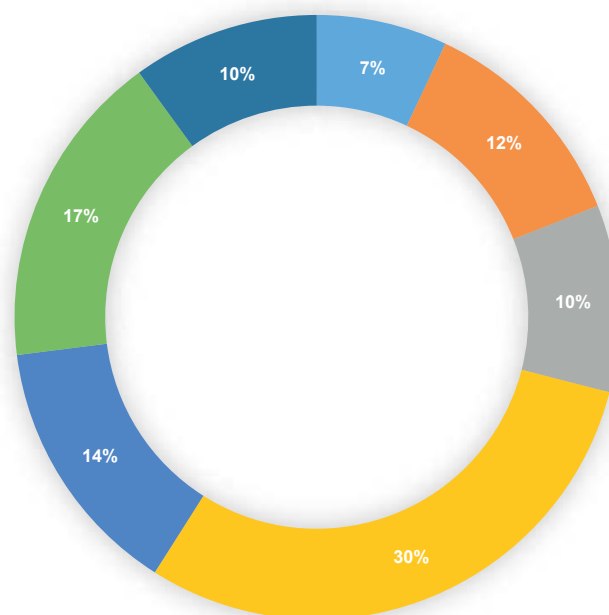
The value of the global packaging market in 2014 was €726bn. By 2020 it is expected to reach €893bn fired by an AAGR of 5%, and that projected figure of €984bn will round off a decade of unprecedented growth.

The sophisticated machinery sustaining this advance had a market value of €32.1bn in 2015, and is itself projected to increase to €35.6bn by 2020.

Much of the impetus for growth is coming from gains in developing nations. By 2020, demand for packaging machinery will be particularly strong in Asia, Africa and Oceania with an increase of 7.1%.

Asia in particular is forecast to be the biggest market, progressing from 42% of market share in 2015 to nearly 45% in 2020, ahead of Eastern Europe. It is followed by Latin America, which is expected to see an increase of 5.6% in demand for packaging machinery products.

Global market of packaging machinery by country



■ Germany ■ Rest of Americas ■ Rest of Asia-Pacific ■ Rest of EMEA ■ China ■ United States ■ Japan

At 5.6%, wrapping machines are forecast to have the highest growth rate over the period due to growth of the flexible packaging market, ahead of filling machines at an increase of 5.2% and labelling machines with an increase of 5%.

The value of demand in Europe for packaging machinery:

2015: €9.2bn
2020: €9.6bn.

The value of the production of packaging machinery in Europe:

2015: €16.3bn
2020: €18.3bn.

Based on the above, the demand for packaging machinery for tissue products will be affected by a strong demand for automation due to the increasing commercialisation of industrial tissue products in the supermarkets.

Based on this trend, Macdure is investing R&D efforts to create packaging machines that are suitable to pack tissue products both with shrunk polyethylene film for transport, and shrunk polypropylene with printed film reels for the supermarkets.

Where there are large volumes of products (but if they are of low value as is possible for tissue products), intervening in the automation of packaging processes can help give tissue mills important margins of time and resource optimisation. Macdure is aligned with the market having developed a strong specialisation in the design and production of complete automated packaging lines, from long saw to the palletiser.

Sources:

- *The Future of Global Packaging to 2020:* <https://goo.gl/H6WL77>.
- *Packaging: Market and Challenges in 2016:* <https://goo.gl/6gd93T>.
- *Global Trends Impacting the Market of Packaging Machinery.* PMMI. January 2016: www.pmmi.org/research.
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This article was written for TWM's Packaging Technical Theme by Macdure.

The demand for packaging machinery for tissue products will be affected by a strong demand for automation due to the increasing commercialisation of industrial tissue products in the supermarkets. Based on this trend, Macdure is investing R&D efforts to create packaging machines that are suitable to pack tissue products both with shrunk polyethylene film for transport, and shrunk polypropylene with printed film reels for the supermarkets.

€32.1bn

Global packaging machinery market value, 2015

€35.6bn

Projected value for 2020

€9.2bn

Value of demand in Europe for packaging machinery, 2015

€9.6bn

Projected increase in 2020

€16.3bn

Value of the production of packaging machinery in Europe, 2015

€18.3bn

Projected increase in 2020



PULP & PAPER

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Revolutionary breakthrough in tissue packaging?

Mladen Starcevic, the founder and general manager of Stax Technologies, explains why he believes the company's ULTIMA product is breaking new ground. A TWM report.

Technical packaging innovations during the past 50 years have witnessed several big improvements in tissue packaging machine design. This has been crucial in assisting us in researching and developing our latest offerings for the global tissue market.

I am a firm believer that every challenge is an opportunity, and as our company grows rapidly in our native Serbia, we have also diversified and are growing in the American market. Most recently we have responded to customer demand with the launch of ULTIMA, a breakthrough roll wrapper which had its North American premiere at Tissue World Miami 2018 in March.



Mladen Starcevic

*Founder and general manager,
Stax Technologies*

For the last 30 years, the industry has experienced mechanical line shafts, complex designs, expensive maintenance, and generally very limited machines that waste a lot of energy.

For the last 30 years, the industry has experienced mechanical line shafts, complex designs, expensive maintenance, and generally very limited machines that waste a lot of energy.

Throughout the 2000s, further developments were made with the first electronic line shafts, increased speeds, reduced maintenance and energy consumption up until today when we have a completely new generation of motion control.

ITrak – the Intelligent track system developed by Rockwell Automation – was a big step forward for the market, and was first applied in the tissue packaging industry by Stax Technologies. It eliminated belts, gears, rotary driven chains and similar mechanical constraints, replacing them with multiple independently controlled and magnetically propelled movers with adjustable software profiles, thus enabling flexibility in machine building.

This machine fully applies all benefits and ideas of ITrak; with simple, open and very accessible design and relatively small footprint, it offers easy and moneysaving maintenance.

It also takes the idea of pitchless motion, which is present in every segment of the machine thus reducing

very profitable production runs.

With speeds of 210+ packs per minute (conventional four pack) and very high quality of packed product at full speed range, this is the fastest roll wrapping machine currently on the market.

Compared to conventional packaging machines, energy usage has been reduced by 40%. The machine is capable of wrapping numerous formats of both bathroom rolls and kitchen towels, from 90mm to 200mm diameter.

ULTIMA is a machine that sets new standards in the roll wrapping industry.

This article was written for TWM's Packaging Technical Theme by Mladen Starcevic, Stax Technologies founder and general manager.

ITrak – the Intelligent track system developed by Rockwell Automation – was a big step forward for the market, and was first applied in the tissue packaging industry by Stax Technologies.

vibrations and disturbances, delivering higher production capabilities using lower constant speeds and increasing energy savings.

Automatic control, completely tool-less changeover process and great flexibility creates an opportunity for smaller but

With speeds of 210+ packs per minute (conventional four pack) and very high quality of packed product at full speed range, this is the fastest roll wrapping machine currently on the market.

"Digitisation is key; Our goal has been to focus on R&D that enables a complete integrated offer for the entire tissue roll production line."

By Matteo Giardini, global sales director packaging, Fabio Perini. A TWM report.

Casmatic is the Fabio Perini brand dedicated to packaging solutions that create perfect line integration. Key criteria from customers include: reliability, efficiency, super-fast format change and attention to energy savings.

Digitisation is also key for the product and our goal has been to focus on R&D that enables a complete integrated offer for the entire tissue roll production line.

Casmatic has further diversified to offer another smart machine; the CARBON T wrapper. Here we have prioritised format change automation which means an operator is no longer needed for most of the formats produced today in the tissue industry.

Due to Industry 4.0 and digitisation, we have been increasingly focused on concrete improvements in the line's production efficiencies. One of the most significant results is the new bundler CMB270, a machine developed following the study of the "pain points" identified by our customers.

It has a compact design, a reduced footprint and high levels of automation to drastically reduce the format changeover times.

Driven by the All-In-One Smart Application, it is designed for easy maintenance and excellent performance.

CMB270 optimises all the features of performance and reliability. In particular, it is characterised by an increase in production speed, reaching up to 27 bundles per minute.

In addition to the higher speed, this new bundler has several other new benefits such as in-line infeed and stratification for any type of bundle, reduced energy consumption (saving about 60% compared to the previous model), and

a newly conceived operator interface designed around the operator's needs.

Casmatic has further diversified to offer another smart machine; the CARBON T wrapper. Here we have prioritised format change automation which means an operator is no longer needed for most of the formats produced today in the tissue industry.

This technical development was made in response to customers asking for lines that make their production increasingly efficient. The CARBON T guarantees format changes in a minimal changeover time for the overhead flight fingers.

On wrappers that are currently available on the market, this operation is performed with at least two operators who must intervene above the wrapper and the operation takes no less than 20 minutes.

Automation with the intelligent system installed on the CARBON T ensures an 80% time savings for the same operation, which strongly contributes to the overall efficiency of the line.



Matteo Giardini

*Global sales director packaging,
Fabio Perini*

The CARBON T maintains the distinctive elements of the CASMATIC A5T and A6T models, such as top-quality folds and exceptional production efficiency.

CMB270 and CARBON T are two of the spearhead technologies in Fabio Perini's packaging offer, with high levels of innovation and performance features due to their All-in-One Smart Application.

Further still, we have developed the MyPack integrated line that meets the demands of customers looking for top reliability and a reduced footprint.

Integrating a wrapper and a bundler together is possible only if the machines are extremely reliable.

The reduced buffer between the two machines allows the customer to have a packaging area of only 24 metres.

Additionally, selecting the predefined options satisfies the demands of markets where price sensitivity is an important driver, without obviously penalising productivity and reliability.

This article was written for TWM's Packaging Technical Theme by Matteo Giardini, global sales director packaging, Fabio Perini.

We have developed the MyPack integrated line that meets the demands of customers looking for top reliability and a reduced footprint. Integrating a wrapper and a bundler together is possible only if the machines are extremely reliable.

Today's retail realities – what does it take to compete?

Shoppers' expectations today are sky high. With a revolution in retail well underway, the industry needs to inspire and uplift ... to redefine the consumer experience. By Patrick Boateng, leader, global sourcing, The Kroger Co.

At Tissue World Miami in March, The Kroger Co's Patrick Boateng discussed the key drivers that have created a revolution in the retail industry. Here, TWM summaries his talk as well as an extract from his recent article for TWM's special supplement publication "Focus Report: USA".

Tissue World Miami: summary

The sky-high expectations of today's consumer have created a revolution in the retail industry, driving changes at an unrelenting pace. Key disruptive forces include:

- More consumer buying options;
- Technology has created more choices for the consumer;
- Channel fragmentation;
- Changes in customer expectations;
- Accelerating pace of competition;
- Intensified competition across traditional channels and with new market entrants.

"Re-stock Kroger Plan"

Purpose: feed the human spirit.

Vision: serving America through food inspiration and uplift.

Redefining grocery customer experience: data and personalisation, digital, space optimisation, our brands, smart pricing.

Partner for customer value: infrastructure and technology upgrades, alternative revenue streams, costs and cost of goods sold.

Develop talent: associate experience, investing in and retaining store associates, high performing leaders and teams.

Live our purpose: zero hunger/zero waste, our culture and values.

Create shareholder value: free cash flow, operating margins.

Redefine grocery customer experience

To create different experiences: prices are good, prioritising saving money.

Sub-dimensions: prices paid/spend to save/retailer switching.

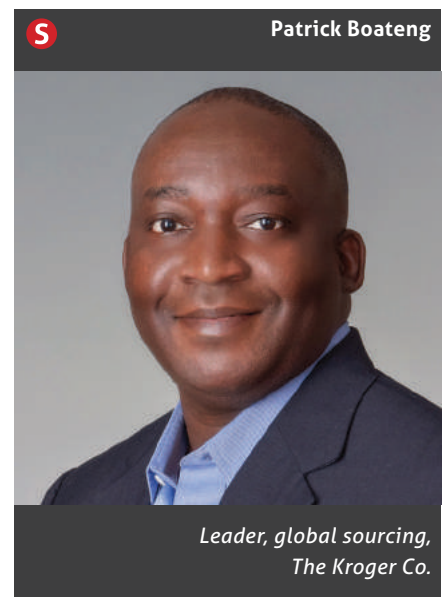
Space optimisation: efficiency and effectiveness with the use of front end and pallet drops.

Kroger is selling more of our brands to serve both our customers and our bottom line. Our brands are by far the largest brands sold in our stores and would be ranked #140 on the Fortune 500 list.

Since 2011, we have seen a 37% sales growth to \$20.5bn.

Smart pricing: we will not lose customers because of price. We have invested nearly \$4bn in price since 2001.

Our goals: zero waste company by 2020, plus zero food waste by 2025. Advocate for public policy solutions. Join forces with new and long-standing partners.



Partner for customer value

Front-end transformation project

- Redesign store front-end to maximise self-check-out (SCO);
- Scan, bag, pay & go (SBPG) + SCO with a goal to increase materially beyond today's performance;
- Technology Innovation: robotics and AI will complement our sensor network.

Create shareholder value

We use 84.51degree science to balance inflation. Expectations:

Value: Cost transparency

Innovation/quality:

- "Big deal!" (Big packs)
- Focus on our brand products that deliver branded quality.

Partner for customer value:

- Relationship and trust;
- Collaboration;
- Share benefit;
- Service.

The sky-high expectations of today's consumer have created a revolution in the retail industry, driving changes at an unrelenting pace.

FOCUS REPORT: USA extract:

The retailer's power: a major buyer's view on market developments

While larger sizes or club packs are growing across all segments due to e-commerce, the American market is also seeing a steady increase in private label products with premium branded quality across channels. Below is an extra from Patrick Boateng's interview for TWM's "Focus Report:USA" supplement magazine.

FR/1: What trends are you seeing in the American retail market in terms of tissue?

"Larger sizes or club packs are growing across all segments due to e-commerce. We're also seeing an increase in private label products with premium branded quality across channels. There's a growing consumer base that places a high value on cost and quality."

FR/2: Do you see more and more private label products in America?

"Yes, because major retailers are using private label as a technique to provide value to their customers. Private label products rank well among consumers. UltraPremium products for example are no longer exclusive to National Brands. Once retailers identify features their customers value most, products are redesigned accordingly to provide value to their customers without sacrificing the quality of the products."

FR/3: How are economic conditions impacting the choice of tissue purchasing in America?

"I would like to answer this question by saying that in spite of the high consumer confidence level, there are more consumers that would like to shop based on personal choice. This often depends on one's income level. Also, some consumers would like to purchase lower cost items to save money so they can spend in other discretionary areas. Good deals appeal to customers all the time but especially during harsh economic situations. The industry has become addicted to deals and promotions."

"Some consumers would like to purchase lower cost items to save money so they can spend in other discretionary areas. Good deals appeal to customers all the time but especially during harsh economic situations. The industry has become addicted to deals and promotions."

"Digital and online marketing is an ever-changing key driver for the tissue and retail sectors. Retailers are using advanced technologies and online to better serve customers. Supply chain transparency and value stream efficiencies are vital; for example, in order to ensure transparency of its supply chain, Target Supermarket has published its entire global suppliers on its website."

FR/4: With e-commerce becoming increasingly popular, what trends do you forecast?

"Investment in promising multi-channel platforms, infrastructure and technology advancement, more personalised marketing, use of data to create enhanced customer experience, and more customer-centric products that are based around value, affordability and authenticity."

"Digital and online marketing is an ever-changing key driver for the tissue and retail sectors. Retailers are using advanced technologies and online to better serve customers. Supply chain transparency and value stream efficiencies are vital; for example, in order to ensure transparency of its supply chain, Target Supermarket has published its entire global suppliers on its website. This type of strategy in the retail market is having a substantial impact on north America's Tissue Paper Category."

FR/5: What does Amazon.com's purchase of Whole Foods mean for the tissue market?

"The purchase will intensify the already highly competitive market. The net effect is pressure on price which will force third party suppliers in the industry, including tissue suppliers to be more efficient not only in the delivery of service but find sustainable ways of slashing cost."

What's in store: 2018 and beyond

By Jordan Rost, VP consumer insights, Nielsen, USA

"Attention is the scarce commodity. The way that we captured it was by doing something new and innovative that has real value for the customer."

Jeff Bezos, American technology entrepreneur and founder of online retail giant Amazon

FMCG retail growth appears to be slowing over the long term. But even in a mature market, there is growth and that growth is rewarding the responsive. More than any other, these three trends are driving growth for the tissue and paper industry.

New and emerging channels

Every year, more consumers are buying online and FMCG e-commerce is finally becoming mainstream. More than half of shoppers have purchased home care products online at some point.

Recently, 44% of health care shoppers buy online, 42% buy personal care items online, 38% home care, 34% pet care, 22% packaged foods, 12% baby care and 8% fresh food.

While still relatively small, the online share of dollar sales is starting to grow rapidly.

"Every year, more consumers are buying online and FMCG e-commerce is finally becoming mainstream. More than half of shoppers have purchased home care products online at some point."

Between 2016-2017, the e-commerce grew from 5% to 7% of all paper towel sales, 4% to 6% of bath tissue sales and 3% to 4% of all paper napkins sales.

Tissue growth has already largely shifted online

Despite driving less than a tenth of all sales, online channels are driving a significant share of total sales growth.

Raw dollar growth of facial tissues is now \$89m for e-commerce and \$79m for

traditional retail; for paper napkins it's – \$7m for e-commerce and \$100m for traditional retail, bath towels is \$133m and – \$93m for traditional retail, and for paper towel \$21m for e-commerce and – \$25m for traditional retail.

Paper products are one of the top click & collect FMCG categories: Percentage of click & collect trips that include category: Snacks – 13%, baked goods 12%, paper products 11%, milk 9%, sweets 9%.

If more shoppers buy online, what does that enable you to offer in store?

Shopping across categories

More Americans are looking for sustainability but how they seek that will vary: 68% want companies to implement programmes that improve the environment; 67% prioritise socially-conscious food purchases; 48% change consumption to reduce

the impact on the environment.

Sustainable paper goes beyond what's in the product. For toilet paper shoppers, it's particularly important that the brands they buy are environmentally friendly.

"There are no low-consideration products any more. Google search interest index shows an increase in searches for "best toilet paper."



For facial tissue, shoppers are more likely to demand recyclable packaging.

Transparent products are driving growth across FMCG. While all transparent appeals – clean, simple, natural – are driving growth, none is growing faster than sustainability.

These more discerning shoppers are enabled by the technology they have at their fingertips.

The sustainable consumer is more likely to be a digital consumer and they're using new technologies not only to buy products but to decide what products are best for them.

Growth will come to those who can solve a need and ultimately deliver purpose to those buyers.

Omnishopper behaviours

Relative to other consumers goods, paper goods shoppers are harder to influence, particularly online. Tried and true methods of influence like promotion are less impactful and this is even more true for millennial shoppers. But, millennials can be reached, just by different means. Compared to Boomers, millennials are 50% more likely to be influenced by customer reviews.

There are no low-consideration products any more. All of the online research we put into finding the best television, the best bank and the best time to take a holiday has trained us to find the best products across all sectors.

"Every year, more consumers are buying online and FMCG e-commerce is finally becoming mainstream. More than half of shoppers have purchased home care products online at some point."

As a result, Google search interest for "best toilet paper" has grown 7X over the last decade.

While some shoppers simply want the best, others are looking for the best value. And as a result, private label products are winning across the value spectrum.

At a time when the largest brands are declining across FMCG, private labels

have grown 3.2% over the last year. But, much of that growth is within premium price tiers.

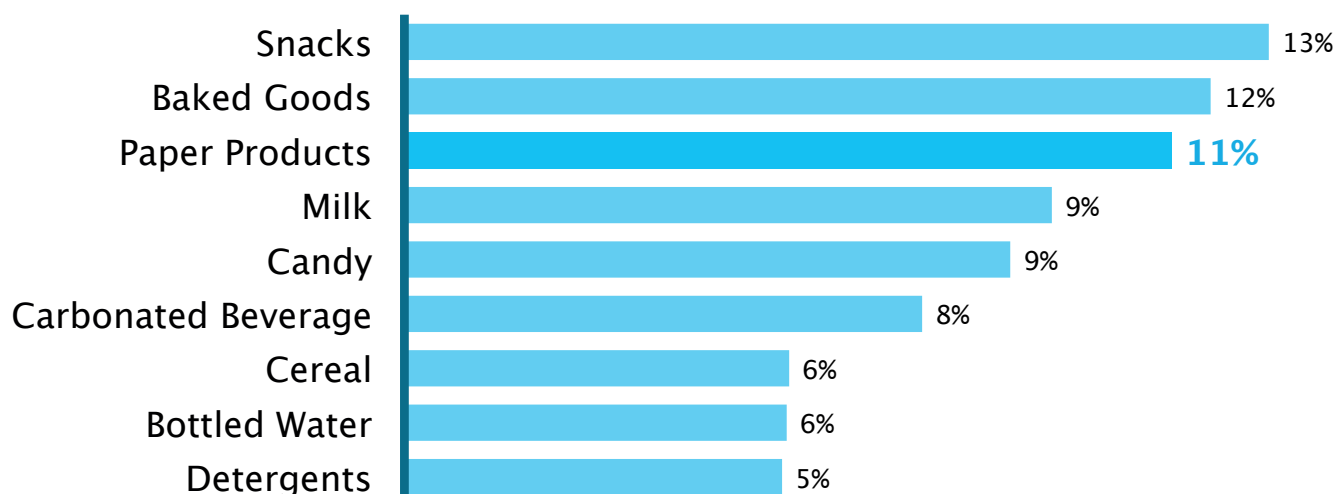
The store brand spectrum is expanding and value is no longer about being the cheapest. When time is our most precious resource, saving consumers time can be just as impactful as saving them money.

"There are no low-consideration products any more."

"Every year, more consumers are buying online and FMCG e-commerce is finally becoming mainstream. More than half of shoppers have purchased home care products online at some point."

PAPER PRODUCTS ARE ONE OF THE TOP CLICK AND COLLECT FMCG CATEGORIES

PERCENT OF CLICK & COLLECT TRIPS THAT INCLUDE CATEGORY



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Portfolio



Organised by



Official Magazine



www.tissueworld.com

UK consumer tissue industry after Brexit: taken to the cleaners?

As the United Kingdom is heavily dependent on imports of raw materials for its tissue industry, the country has been exposed to threatening market fluctuations in 2017.

Steady rise of pulp and parent reels prices combined with a highly fluctuating exchange rate have had a deep impact on manufacturers which saw their profit margins evaporate in just over a few months.

Accrol Plc, a manufacturer specialised in private label and contracted by leading retailers such as Lidl, Tesco and Morrison, faced unprecedented liquidity issues in 2017.

The company temporarily suspended its listing on the AIM, and lost more than 60% of its share price as the management looked at its shareholding to raise funds.

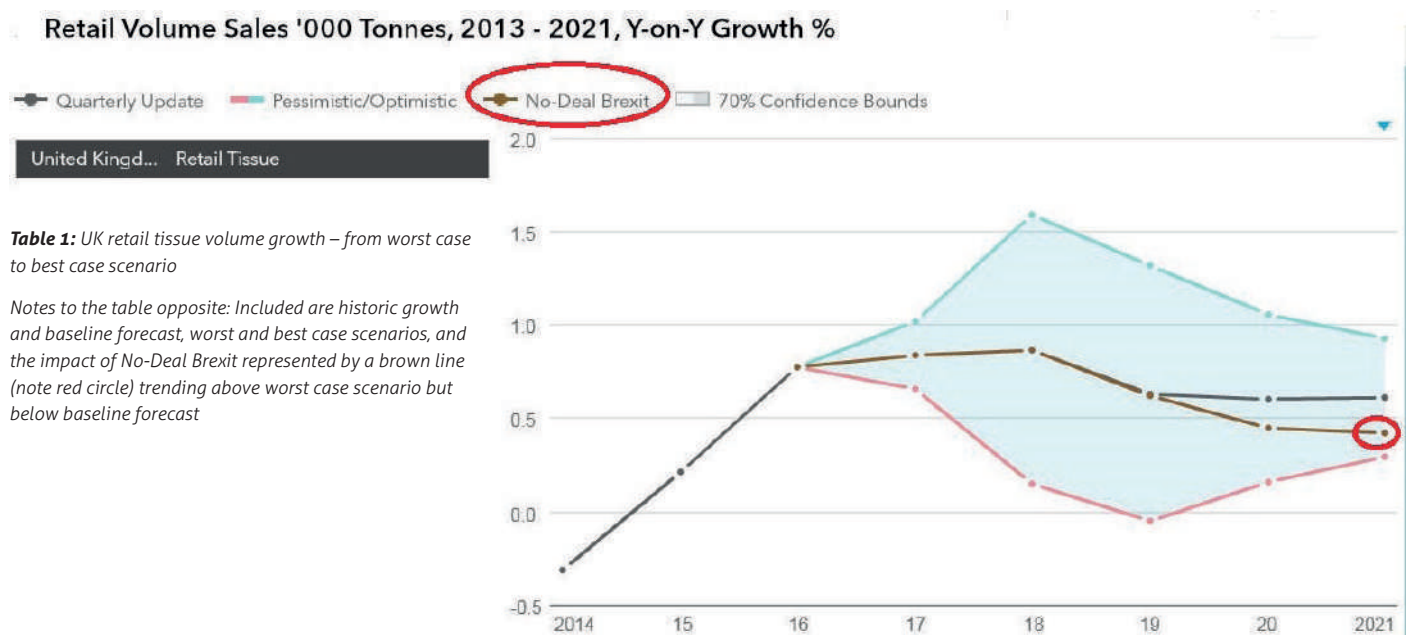
Rising pulp prices are problematic in their own right but are cyclical events to which the industry is used to. But as the market price increased, with pulp providers such as Sodra hiking

their price index of Northern Bleached Softwood Kraft (NBSK) by 31% in 2017, unpredictable exchange rates added an extra dose of uncertainty which caused disarray such as in Accrol's case. Considering that the tissue sector is extremely mature with tight profit margins, manufacturers are currently being squeezed between higher production costs and retailers unwilling to offload those onto their customers.

Decreasing disposable income and growing inflation rates have indeed made the retailing sector more price competitive, and consumers are looking at the best deals.



Steady rise of pulp and parent reels prices combined with a highly fluctuating exchange rate have had a deep impact on manufacturers which saw their profit margins evaporate in just over a few months. Accrol Plc, a manufacturer specialised in private label and contracted by leading retailers such as Lidl, Tesco and Morrison, faced unprecedented liquidity issues in 2017.



Ultimately, raising unit prices are to occur in order to reflect tightening market conditions.

However we expect those hikes to affect tissue products differently. Toilet tissue and paper towel are items considered as more price sensitive by consumers, while facial tissues, not purchased as frequently and coming in wider ranges of sizes, would likely see higher price hikes.

Consumers are also expected to trade down and further opt for private label products, with discounters such as Asda and Lidl set to experience high growth rates.

On a more practical basis, manufacturers could be tempted to reduce the size of their product, a "shrinkflation" phenomenon which has already been taking place over the past years but could very well be further accentuated.

Finally, this tightening environment could provide a boost to manufacturers selling more innovative – and expensive – products as the pricing gap would be reduced.

Specifically, bamboo-focused brands such as The Cheeky Panda, which is already meeting a growing audience in the UK, could gain even more momentum in the coming years.

Looking beyond the UK: Brexit vs Trump trade wars and China hard landing

While the impact of Brexit on consumer tissue will be felt primarily in the UK, markets and industry players operating

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in countries beyond the UK and Western Europe have other concerns overshadowing any impact of Brexit.

With potential changes in trade policies discussed by the new US administration, Euromonitor International's Industry Forecast Model anticipates the impact of the trade wars on retail tissue products to be felt in the Mexican market, due to the extent of trade and imports between the US and Mexico.

The impact of potential changes in trade policies on retail tissue markets in Asia Pacific, including China – currently the world's largest market for tissue and hygiene products – can be mitigated by the expanding

domestic production and locally-sourced supply base built by domestic, regional and global players to increase cost efficiencies as well as shield the industry revenues from the impact of currency fluctuations.

At the same time, however, China's hard landing – still the subject of debates – can add to reduced projections for the industry revenues over 2016-2021, to the tune of estimated USD700m less in projected retail sales (or about 3% of the total projected retail sales) by 2021 if hard landing scenario materialises in 2018.

While the impact of Brexit on consumer tissue will be felt primarily in the UK, markets and industry players operating in countries beyond the UK and Western Europe have other concerns overshadowing any impact of Brexit. With potential changes in trade policies discussed by the new US administration, Euromonitor International's Industry Forecast Model anticipates the impact of the trade wars on retail tissue products to be felt in the Mexican market, due to the extent of trade and imports between the US and Mexico.

Retail Volume Sales '000 Tonnes, 2016 - 2021 CAGR %



Table 2: China, Mexico, USA retail tissue volume growth vs Trump Trade Wars scenario

Note to the table above: the table represents projected growth scenario in volume terms, % CAGR growth. Red circle indicates the adjustment to the forecast in case of Trump Trade Wars vs projected growth designated by Quarterly Update circle.

Events Calendar

Event	Date	Location	Website
ISSA/INTERCLEAN Amsterdam	May 15-18, 2018	Amsterdam, Netherlands	www.intercleanshow.com/en/amsterdam
RISI Asian Conference 2018	May 21-23, 2018	Shanghai, China	events.risiinfo.com/asian-conference/
International P&P Industry Expo	May 25-27, 2018	Guangzhou, China	www.paperexpo.com.cn/
4th Int. Paper Chemicals Technology Expo	May 25-27, 2018	Guangzhou, China	www.paperexpo.com.cn/
PulPaper 2018	May 29- 31, 2018	Helsinki, Finland	pulpaper.messukeskus.com/
Asian Paper/Tissue World Bangkok 2018	June 6-8, 2018	Bangkok, Thailand	www.asianpapershow.com
ANEX 2018	June 6-8, 2018	Shanghai, China	anex2018.com/
Paper Vietnam 2018	June 13-15, 2018	Ho Chi Minh, Vietnam	www.paper-vietnam.com/
ZELLCHEMING-Expo	June 26-28, 2018	Frankfurt, Germany	www.mesago.de/en/ZEX/home.htm
It's Tissue	June 25-29, 2018	Lucca, Italy	www.itstissue.com/
Tissue World Istanbul 2018	Sept. 4-6, 2018	Istanbul, Turkey	www.tissueworld.com/istanbul
CCE Southeast Asia	Sept. 5-7, 2018	Bangkok, Thailand	www.cce-southeastasia.com/english/
RISI Int. Woodfiber Conference 2018	Sept. 17-19, 2018	Durban, South Africa	events.risiinfo.com/wood-fiber/
Labelexpo Americas 2018	Sept. 25-27, 2018	Chicago, USA	www.labelexpo-americas.com/welcome-labelexpo-americas
Tissue 2018	Oct. 2-5, 2018	Appleton, WI, USA	tissue2018.com/
MIAC 2018	Oct. 10-12, 2018	Lucca, Italy	www.miac.info/
ABTCP EXPO 2018	Oct. 23-25, 2018	São Paulo, Brazil	www.abtcp2018.org.br/en/
Tecnicelipa	Oct. 24-26, 2018	Castelo Branco, Portugal	www.tecnicelipa.com/
ISSA/INTERCLEAN North America	Oct. 29- Nov. 1, 2018	Dallas, TX, USA	www.issa.com/trade-shows/issainterclean-dallas-2018.html
PAP-FOR	Nov. 13 -16, 2018	St. Petersburg, Russia	www.papfor.com/
Paperex South India 2018	Nov. 15-18, 2018	Chennai, India	southindia.paperex.in/
Labelexpo India 2018	Nov. 22-25, 2018	Greater Noida, India	www.labelexpo-india.com/
Tissue World Milan 2019	March 25-27, 2019	Milan, Italy	www.tissueworld.com/milan

	Page	Website		Page	Website		Page	Website
Andritz	45	www.andritz.com	Solar Turbines	2	www.mysolar.cat.com	Tissue World Milan	52	www.tissueworld.com
Buckman	42	www.buckman.com	Svecom	8	www.svecom.com	Toscotec	14	www.toscotec.com
Convermat	IFC	www.convermat.com	Tissue World Bangkok	18	www.tissueworld.com	Trebor	OBC	www.trebor.com
Fabio Perini	Gatefold cover	www.fabioperini.com	Tissue World Corporate	27	www.tissueworld.com	UPM Pulp	IBC	www.upmpulp.com
MTorres	38	www.mtorres.com	Tissue World Istanbul	35	www.tissueworld.com	Voith	22	www.voith.com

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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
- ☐ Energy and Power
- ☐ Testing machines
☐ Engineering
☐ Consulting services. Please specify field:
☐ Dispensers and dispenser systems
☐ Insurance and financial services
☐ Used machinery
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- ☐ Other (please specify):

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