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TISSUE WORLD MAGAZINE

INDIA

Tissue's greatest potential ... and its greatest challenge?
Can a new generation open up a vast new market?

Country Report

PLUS

TW Istanbul sets the standard
Report inside

WORLD NEWS

SCA splits group into two listed hygiene
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India - the world's greatest untapped market

In no other country is so great a potential so apparently locked out of reach. India has untapped retail tissue growth estimated at US\$12 billion, 4.5 million tonnes. A population of 1.3 billion is expected to overtake China's in less than 20 years. One of Asia's fastest growing economies where real GDP is expected to increase by 7.3% this year. Joblessness is as low as 4.8% while disposable income is set to increase by 6.5% annually ... until 2030.

The question for tissue is how quickly some of that potential can be unlocked? Most indicators suggest later rather than sooner and India remains a land of remarkable contrasts.

What tissue use growth there is happens mostly in AfH as more affluent Indians travel and enjoy the benefits of a developing social mix of experiences.

Homes remain steadfastly traditional and personal cleansing techniques rely on water rather than paper.

Almost half the population live below the poverty line (US\$3.10 a day), compared to 18% in China. Average middle class disposable income is half that of China, and adult literacy rates, while on the rise, still fall behind a number of other developing markets in the Asia Pacific region.

Crucially also, the essential enabler of efficient transport infrastructures is not in

place. Much work needs to be done, but there is optimism, as ever, on the tissue front line.

At the Kolkata HQ of Orient Paper there is a real sense of a company poised and ready. Paper division chief advisor R.C Mall acknowledges that when the company integrated "people thought we were mad to be investing in tissue". Now, FSC and ISO 14001-certified, it's paying dividends. Tissue market growth in India, TWM's Country Report, is estimated at 15-20% each year. Second and third grade tissue is growing at 6% year-on-year. AfH and the diaper market are growing.

All, says Mall, in tandem with "environmental awareness, hygienic needs, improvement in the levels of education and improvement of disposable income with the masses".

And crucially, the younger generation's habits and opinions are changing. The big question is how quickly?

Tissue World Istanbul does the business

More than 1,600 unique attendees from across 65 countries were present at Tissue World Istanbul 2016; the first dedicated tissue exhibition and conference for the Middle East, Central Asia, Africa, Eastern Europe, Russia and the CIS tissue industry.



Helen Morris
Editor,
Tissue World magazine

The show floor featured more than 50 exhibiting companies while key speakers included Erdal Sükan, president of the Turkish Pulp & Paper Industry Foundation, Andrea Boltho, emeritus fellow at Magdalen College, University of Oxford, Esko Uutela, tissue principal at RISI, Pirkko Petäjä, principal at Pöyry Management Consulting and Euromonitor analysts Ahmed Bakr and Çağlar Altunel.

The facts, figures and features of Tissue World Istanbul speak for themselves ... a resounding success. A success which we hope to repeat in Istanbul, and at all the other Tissue World trade show and conference locations in our growing portfolio across the world of tissue.

We have a comprehensive report from Istanbul in this edition's MarketIssues.

EDITORIAL HEADQUARTERS

UBM Exhibition Singapore Pte Ltd.
10 Hoe Chiang Road, #20-05 Keppel Towers, Singapore 089315
Tel: +65 6592 0888 • Fax: +65 6221 2282

SR. GLOBAL EVENT MANAGER & PUBLISHER

Agnes Gehot
agnes.gehot@ubm.com

EDITOR

Helen Morris
helen.morris@ubm.com

ASSISTANT MARKETING MANAGER

Lei Ching Yew
leiching.yew@ubm.com

MANAGING DIRECTOR

Paul Wan
paul.wan@ubm.com

SENIOR VICE PRESIDENT

Chris Eve
christopher.eve@ubm.com

PRESIDENT/CEO

Jimé Essink
jime.essink@ubm.com

ADVERTISING ENQUIRIES

Americas and Europe

Paolo Rampetta
Tel: +32 497 050 755
Skype: paolo.rampetta
paolo.rampetta@skynet.be

Sales Asia-Pacific

Agnes Gehot / Rane Tan
Tel: +65 65920888 ext 886 / 861
agnes.gehot@ubm.com / rane.tan@ubm.com

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10 Hoe Chiang Road, #20-05 Keppel Towers, Singapore 089315
Tel: +65 6592 0888 Fax: +65 6221 2282
Email: info@tissueworld.com

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TISSUE WORLD ISTANBUL A SUCCESS; ATTRACTS 1,602 ATTENDEES FROM SIXTY FIVE COUNTRIES



First dedicated event covering huge region attracted 1,602 attendees from 65 countries

Tissue World Istanbul 2016 concluded successfully after attracting 1,602 unique attendees – of which 1,231 were unique visitors – from across 65 countries.

Held in Istanbul from 27-29 September, the fully-fledged event was the first dedicated tissue exhibition and conference for the Middle East, Central Asia, Africa, Eastern Europe, Russia and the CIS tissue industry.

Some 67% of the participants were Turkish tissue industry players, while the remaining attendees came from 64 countries including the UK, Italy, India, UAE, USA, Saudi Arabia, South Africa, Morocco, Algeria, Iran, Russia, Egypt and the UAE.

The show floor featured over 50 exhibiting companies such as Aktül Kağıt, Cellynne Converter, Lee & Man, Hayat Kimya, İpek Kağıt, Kahramanmaraş Kağıt, Mediterranean Tissue Mill, Lila Kağıt and Parteks Kağıt.

A conference that discussed key issues impacting the region's tissue market was also successfully held.

Tissue World Istanbul 2016 was backed by sponsorship from Hayat Kimya, İpek Kağıt, Aktül Kağıt, Lila Kağıt and Organik Kimya.

Held in Istanbul from 27-29 September, the fully-fledged event was the first dedicated tissue exhibition and conference for the Middle East, Central Asia, Africa, Eastern Europe, Russia and the CIS tissue industry.

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Portfolio

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CONFERENCE SNAPSHOT

Turkey: How can it maintain the pace of success? – provided an in-depth look into the key opportunities and challenges facing the dynamic Turkish tissue market, as well as the surrounding region's. Here we review a handful of the key talks.

An outlook on the paper and board industry and the tissue paper sector in Turkey; Erdal Sükan, president, Turkish Pulp & Paper Industry Foundation

PAPER&BOARD PRODUCTION BY GRADE IN TURKEY (2015)

Corrugated Medium – 58%, Tissue Paper – 18%, Boards – 15%, Printing & writing paper – 6%, Wrapping paper – 2%, Cigarette and special paper – 1%

PAPER&BOARD CONSUMPTION BY GRADE IN TURKEY (2015)

Corrugated Medium – 42%, Printing & writing paper – 20%, Boards – 17%, Tissue Paper – 8%, Newsprint – 6%, Wrapping paper – 6%, Cigarette and special paper – 1%

With 74,7kg per capita consumption in 2014, Turkey was 47th in the world. Its population increased from 74.7 million to 78.7 million. All figures indicate that Turkish paper and board industry has a great growth potential. Currently about 50% of paper and board consumption is imported. Production capacity of tissue paper in Turkey increased steadily since 2011 to 2015 with a 41% increase. The production capacity amount was 567,500 tonnes in 2011 which reached 801,000 tonnes in 2015.

Capacity utilisation was 82.5% in 2015 in tissue paper manufacturing sector. Tissue paper consumption also increased within the same period by 33%, from 370,500 tonnes to 494,500 tonnes. Ten countries have 92% of the all exportation of tissue paper; 84% to European countries: UK – 62.6%, Israel – 30.6%, Greece – 28.6%, Bulgaria – 5.6%, Iraq – 4.8%, Syria – 3.9%, Georgia – 2.8%, Kazakhstan – 2.6%, Angola – 2.5% and Azerbaijan – 2.2%.

Per capita consumption was 6.3 kg in 2015 and Turkey's population is about 79 millions. Considering European average of 15 kg per capita consumption, investments in tissue papers in Turkey have great potential. In

addition to that, Turkey's neighbouring countries will have a potential for tissue paper exportation when the current wars end. Therefore, Turkey presents great opportunity to local as well as international investors. There is sufficient land existing in Turkey for forest plantation; investment in this area can also be considered because all pulp is being imported currently.

The Economic Outlook: Andrea Boltho, emeritus fellow, Magdalen College, University of Oxford

The economic outlook – fewer clouds on the horizon?

THE EUROPEAN ECONOMY

The European recovery has continued despite what happened in early 2016. The effects of Brexit, so far, seem to have been contained. Many of the past worries are no longer as worrying.

Increasing tensions in the Ukraine; a return to higher oil prices; deflation; Greece leaving the Eurozone; a Chinese hard landing; a US interest rate shock. But there are problems ahead: uncertainty over the US election; dealing with mountains of debt; lingering uncertainties over the Euro; further and greater Middle East turmoil.

EARLIER THIS YEAR EVERYTHING WAS FALLING:

Stock markets: confidence; oil prices; the Yuan; inflation; commodities; Brazil, Russia; investment; gold; birth rates, rain and snow.

BUT THINGS HAVE CALMED DOWN SINCE THEN:

Stock markets; confidence; oil prices; the Yuan; Brazil, Russia; rain and snow ... are falling less. The days, however, are getting shorter.

THE LONGER-RUN EFFECTS OF BREXIT:

Economics: For the UK, most studies suggest relatively small negative effects. Oxford Economics, for instance, concludes, on the basis of nine different scenarios, that UK GDP could be from 0.1 to 3.9% lower in 2030 than it would otherwise have been.

Even in the most extreme case, UK GDP growth between 2016 and 2030 would be cut by only 0.2/0.3 per cent per annum. For other countries the effects are also likely

to be negative, but negligible (the only exception is Ireland, where GDP, by 2030, could be, in the most pessimistic scenario, 1.6 per cent lower than otherwise).

Politics: Brexit is a severe setback for European integration. As it is, two of the four big achievements of the EU (Schengen and monetary union) are at risk. Schengen may not be there next year; EMU may not be there in 10 years. The other two major achievements, the Single Market and the opening to Eastern Europe, are still in place (even if their biggest supporter, the UK, is now out of the EU), but both are threatened by the rising wave of populism. The EU will not break down, but increasing integration is, at present at least, just not on the cards.

THE LINGERING WORRIES ABOUT THE EURO

Greece, despite the huge costs of its adjustment programme, has not gone for Grexit, but the temptation must still be there. Italy is subject to the same temptation (and two political parties, including the important 5 Star Movement, have openly talked about a referendum on EMU membership).

Grexit would, in all probability, have a serious negative effect on European growth. "Ixit" would, almost certainly, lead to EMU breakdown. This, in turn, would usher in a massive recession. The political will to stick to monetary union is very strong, but economic realities also matter.

TURKEY: HOW CAN IT MAINTAIN THE PACE OF SUCCESS?

A rapidly growing emerging economy, not that closely linked to Western Europe.

Favourable features: huge scope for catch-up; relatively good demographics; sensible fiscal policies; potential problems: large external deficit; relatively high inflation; threats to competitiveness; geography.

Outlook for the tissue business in the Near and Middle East region: Esko Uutela, principal - tissue, RISI

- Tissue consumption in the MENA region by main country, 2015. The five largest countries account for 69% total consumption:
 - Turkey: 28%
 - Saudi Arabia: 16%

- Iran: 10%
- Israel: 8%
- Egypt: 7%
- UAE: 5%
- Morocco: 3%
- Lebanon: 3%
- Iraq: 3%
- Syria: 2%
- Algeria: 2%
- Jordan: 2% and all others: 9%.

- Political turbulences in the MENA region lowered the average growth in 2010-2014, but in 2015 growth returned onto its former path. Average growth between 2003-2015: 8.8% per annum.
- Growth rates of tissue consumption by main country 2005-2015; strong growth also in the main markets, well-developed Israel an exception, Syria suffering from the civil war and exile:

- Turkey: 11%
- Saudi Arabia: 9%
- Iran: 13%
- Israel: 3%
- Egypt: 7%
- UAE: 5%
- Lebanon: 4.8%
- Morocco: 11.8%
- Iraq: 26%
- Kuwait: 5.2%
- Syria: – 1%
- Algeria: 11.4%
- Jordan: 8.8%
- all others: 11.8%.

- Estimated structure of tissue demand in the MENA region, 2015. Facial tissue/hankies dominate in the Arab countries, toilet paper in Turkey and Israel (which account for 60% of MENA consumption):
- Facial/Hankies: 40%
- Toilet Paper: 34%
- Towelling: 15%
- Napkins: 10%
- Other: 1%

Volume growth of tissue consumption in the MENA region by main country, 2005-2015. Turkey's growth has been the largest by volume in the past 10 years:

- Turkey: 290,000 tonnes
- Saudi Arabia: 155,000 tonnes
- Iran: 120,000 tonnes
- Egypt: 60,000 tonnes
- Iraq: 45,000 tonnes
- Israel: 40,000 tonnes
- Morocco: 40,000 tonnes
- UAE: 35,000 tonnes
- Algeria: 20,000 tonnes
- Kuwait: 20,000 tonnes
- all others: 120,000 tonnes.

- Turkey fourth largest net exporter worldwide, Egypt and Jordan the main exporters, Saudi Arabia, Iraq and Israel the main net importers.
- Turkey exports tissue, mainly parent rolls, to very many destinations but the UK and Israel are the two largest buyers; major export growth in 2016.
- Tissue market expansion will continue and regional consumption will grow by 1.3m tonnes and almost reach 3.0m tonnes by 2025.
- During 2015-2025, Iran, Iraq and Syria are expected to have the highest relative growth rates, provided political turmoil will not worsen. Average regional growth – 6.2%.
- Expected volume growth of MENA tissue consumption by main grade, 2015-2025. Volume growth dominated by facial tissue/hankies, about two-thirds of toilet paper volume growth in Turkey and Israel:

- Toilet Paper: 350,000 tonnes
- F/H: 610,000 tonnes
- Towelling: 260,000 tonnes
- Napkins: 80,000 tonnes
- Other: 20,000 tonnes. Total expected regional growth 1.34 million tonnes.

- Capacity shares of the main suppliers in the MENA region, 2016 (August). Relatively fragmented industry: top 10 players account for 60% of capacity:

- Hayat Kimya: 12.2%
- Ipek Kagit: 7.4%
- Nuqul: 7%
- Aktül Kagit: 6.1%
- Lila Kagit: 6.1%
- Saudi Paper: 6.1%
- K-C: 4.5%
- ADNPM: 4.1%
- Indevco: 3.9%
- Tezol Tütün: 3.2%
- all others: 39.5%.

Total Capacity: 2.3m tonnes.

- Average regional PM size – 25,600 tonnes. The leading Turkish companies operate the most modern tissue equipment contributing to their cost-competitiveness. Average Tissue PM size 25,600 tonnes.
- Major tissue capacity changes (>10,000tpy) in the MENA region:

2014:

- Golboneh Pars Industrial, Tehran, Iran 21,000tpy
- Mediterranean Tissue Co., New Borg El Arab, Egypt 26,000tpy

- Parteks Paper, Kayseri, Turkey 25,000tpy
- Tunisie Ouate, Enfidha, Tunisia 25,000tpy
- Saudi Paper Manufacturing, Dammam, Saudi Arabia 15,000tpy

= 112,000tpy.

2015:

- Zarrin Barge Persia, Saveh, Markazi, Iran 70,000tpy
- Hayat Kimya Group, Mersin, Turkey 70,000tpy
- Essel Group, Caycuma, Zonguldak, Turkey 31,000tpy
- Faderco, Setif, Algeria 30,000tpy
- Abu Dhabi National Paper Mill, Abu Dhabi, UAE 30,000tpy
- Ipek Kagit Tissue/Eczacibasi Group, Manisa, Turkey 70,000tpy
- Azerbaijan Narmeh Paper Industries, Tabriz, Iran 29,000tpy
- Tezol Tütün ve Kagit San ve Tic, Mersin, Turkey 30,000tpy

= 360,000tpy.

2016:

- Aktül Kagit Üretim Pazarlama, Pamukova, Turkey 70,000tpy
- Arian Cellulose Sanat, Eshtehard, Karaj, Iran 35,000tpy
- Hayat Kimya Group, Ain Sokhna, Egypt 70,000tpy

= 175,000tpy.

2017-2018:

- Fine Hygienic Holding (Nuqul), Abu Dhabi, UAE 60,000tpy
- Al Faris, Khamis Mushayt, Saudi Arabia 25,000tpy
- Alex Converta, Alexandria, Egypt 25,000tpy
- Tezol Tütün, Izmir, Turkey 11,000tpy
- Paper Mill Investment, Algeria 32,000tpy
- CIDC, Baku, Azerbaijan 30,000tpy

= 173,000tpy.

Potential Projects:

- Eka Industrial Paper, Koseköy, Izmit, Turkey 38,000tpy
- Gulf Paper/Al Rajhi Group, Riyadh, Saudi Arabia 60,000tpy

= 98,000tpy.

- New, partly export-oriented investments will likely increase tissue next exports further to more than 100,000 tonnes.
- New investments during 2015-2017 will add substantial capacity and

The background of the advertisement is a textured, aged parchment-like surface. Overlaid on this are several faint, brownish circular and geometric lines, which are part of Leonardo da Vinci's Vitruvian Man diagram. A large circle is on the left, and several smaller circles and triangles are on the right, some overlapping each other.

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the average capacity utilisation will nosedive deeply below 80%.

CONCLUSIONS:

- The MENA region has been a major growth base for the global tissue industry expansion partly recovered from political turmoil and shows good growth again;
- The positive issue is that strong demand growth is expected to continue in the three largest markets Turkey, Saudi Arabia and Iran. Iran will benefit from the removal of the Western sanctions and tissue consumption will likely see very rapid growth.
- A major investment peak is occurring between 2015-2017 and there are limited possibilities to avoid regional overcapacity, some project delays have helped only marginally. Exports to other regions have limited chances to grow sufficiently to relieve the situation because of the existing tight international competition by Asian suppliers.
- The long-term outlook for the region is good as there is still a lot of growth potential, but based on the current outlook, suppliers need to think about timing of their new investments.

Turkish tissue players intend to score in Europe: Pirkko Petäjä, principal, Pöyry Management Consulting

OVERVIEW

- Rapid tissue capacity development in Turkey – CAGR 2005-2015, 13.4%.
- Turkish tissue industry is well equipped for success and to be competitive in the European export markets.
- Jumbo reels account for some 80% of Turkish exports and are targeted to developed markets.
- The leading tissue companies are all local. Typically they are part of large industrial groups and in a very solid and powerful ownership. The companies are not only dependent on the tissue market revenues.
- The Turkish tissue capacity has grown double digit and it has more than tripled in the last ten years; also demand has grown briskly. However, the production exceeds the local demand making export very important.
- The Turkish industry has grown rapidly by the leading companies adding large 5.6m machines and it is as an average much more modern than the European.

LARGE STEPS AND MACHINES

Producers invested in large steps and mainly in large machines competitive also in Europe.

- Significant exporter of especially jumbo reels; the export volumes total some 170,000tpy while finished product exports are some 50,000tpy.
- Jumbo reels exported to developed markets such as the UK, Greece and Israel account for over 70% of the total. Finished goods exports are scattered mainly to less developed markets in MENA and former CIS countries.
- Export volumes are sustainable and have shown steady growth with some minor exceptions including increased volumes to Greece due to difficulties of the local suppliers and decrease in Eastern Europe due to the conflict in Ukraine.

UK OFFERS THE BEST EXPORT OPPORTUNITY

The UK is clearly the best jumbo reel export opportunity in Europe. In Germany, for instance, the seemingly large trade volumes are mostly captive.

The UK market is characterised by the large share of independent converters, which explains the jumbo reel opportunity. That may diminish as large independent converters typically consider backward integration and are also interesting acquisition candidates for larger players seeking market share.

COMPARISON UK INDEPENDENT CONVERTERS

- Independent converters in Western Europe:
- Integrated – 90%
- Independent – 10%
- Independent converters in the UK
- Integrated – 75%
- Independent – 25%
- Some opportunities exist especially in former CIS and Balkan countries. Polish trade is mainly captive and opportunities in Hungary are partly fading away.

North African, Asian and new Iberian jumbo reel suppliers pose more threat for the Turks than the Central Europeans that export captive or special qualities. Turkey is too far to export significant volumes of finished products to the UK.

Jumbo Reel import to the UK in 2015:

- Turkey: 24%
- France: 23%
- Italy: 8%

- Other Europe: 21%
 - Asia and Oceania: 11%
 - Other MENA: 11%
 - Americas: 3%
- = 49% EU / 51% Non-EU.

Finished product import to the UK 2015:

- Germany: 26%,
- France: 12%,
- Italy: 12%
- Other Europe: 29%
- Asia and Oceania: 10%
- Turkey: 4%
- Other: 6%

= 79% – EU / 21% Non-EU.

Finished product exports from Turkey to developed markets, such as Western Europe, are negligible due to high transport costs, difficulties to be present in consumer markets and strong local competitors.

Transportation cost from Turkey to, for instance, the UK:

- Jumbo reels 120 \$/t
- Finished products 200 \$/t.

LOOKING EASTWARDS

Beyond exporting, Turkish producers have successfully expanded presence outside Turkey in selected regions in the East.

Tissue Market in Eastern Europe 2015:

- Russia: 27%
- Poland: 25%
- Romania: 8%
- Hungary: 7%
- Czech Republic – 7%
- Ukraine: 7%
- Other: 20%

Turkish type of organic growth with large steps is not applicable, especially with finished products, in developed European markets where competitors are locally established.

Entry to Europe through acquisition mitigates the risks related to organic growth. Various parts in Europe could benefit from stronger players and consolidation of the market.

INSTALLING CAPACITY TO EUROPE MAY BE CHALLENGING

Turkish type of organic growth with large steps is not applicable in developed markets in Europe where competitors are locally established.

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Market requirements add complexity for market entry in Europe:

Powerful client universe less familiar to Turks – Lidl, Mercadona, Aldi, Sainsbury's

Strong existing (multinational) brands – Andrex, Lotus, Tork, Kleenex.

Strict environmental requirements.

ACQUISITION IS AN ALTERNATIVE

Entry to Europe through acquisition mitigates the risks in organic growth. Various parts in Europe could benefit from stronger players and consolidation

Acquisition Example 1 – Navigator / AMS:

Portuguese pulp and paper producer, Navigator. Company (former Portucel), acquires tissue company. AMS to accelerate entry to tissue business. Shortly after the acquisition, Navigator announced a plan for major fibre integrated new tissue mill in Cacia, Portugal.

Acquisition Example 2 – SHP / Paloma:

The Slovak investment fund Eco-Invest, the owner of Slovak Hygienic Paper Group, signed a deal to acquire the traditional Slovenian tissue producer Paloma.

Acquisition Example 3 – Sofidel / Forest Papir:

The Italian tissue giant Sofidel acquires the consumer business of the large Hungarian independent converter Forest Papir to strengthen position in Eastern Europe.

Acquisition Example 4 – CEL / K-C Aranguren:

CEL Technologies & Systems acquired former Kimberly-Clark Aranguren and Artziniega sites with a deal to contract manufacture for K-C.

Trends, challenges and future opportunities in retail consumer tissue in the Middle East: Ahmed Bakr, research analyst, Euromonitor International, United Arab Emirates and Çağlar Altunel, country analyst, Euromonitor International, Turkey

WHAT IS THE GLOBAL UNMET MARKET POTENTIAL? INDUSTRY FORECAST

MODEL:

GDP growth and habit persistence will be among the key drivers of future growth; significant unmet retail volume potential globally – at estimated around 10 million tonnes – creates opportunities for further industry development.

Positive growth globally, at 2% CAGR in constant value;

Asia Pacific, led by China, records the fastest growth and by 2015 leads in absolute value.

UAE

Real GDP growth: 3.15% in 2015

Population: 9.16m

Only 11% of the total population are UAE nationals; population growth and influx of expatriates; rise in disposable income; rise in production and freight costs; average increase in unit prices.

Retail tissue split 2015 –

- Facial tissues: 70%
- Toilet paper: 20%
- Paper towels: 8%
- Paper tableware: 2%

Saudi Arabia

Accounts for around 90% of export earnings, 80% of budget revenues, and 45% of GDP. The expansion of modern grocery retailers. Increase of health and hygiene awareness. Retail tissue total value for 2015 – US\$508 Million. Y-o-y growth – 9%

Two factory mills across the KSA – 160,000 tonnes.

- Retail tissue split – 2015
- facial tissues: 71%
- toilet paper: 10%
- paper towels: 13%
- paper tableware: 6%

Egypt

- Real GDP growth: 3.8% in 2015
- Egypt is the most populous country in the Middle East with 90m in 2015; per capita consumption of retail tissue stands at less than 1 kg.
- Egypt, retail tissue volume, tonnes, % Y-o-y growth:
- Facial tissues – 55%, toilet paper – 40%
- Price conscious, smaller packs. Among the top 10 tissue exporters in the world.
- Seven factory mills across Egypt – 250,000 tonnes.

Iran

Real GDP growth: 1.5% in 2015;

Second most populous country in the Middle East; second largest economy in the Middle East; per capita consumption for retail tissue is just at 1.7kg. Rapid urbanisation; convenience awareness.

Retail tissue total: Value for 2015; US\$645m. Y-o-y growth – 14%

Price sensitive consumers; high income consumers and kitchen towels. Retail distribution development. Is the competitive landscape going to change?

Turkey

Retail tissue sales in Turkey – 2010-2015:

TRY current value 2015: 1.9bn.

The significant growth in TRY terms largely rely on the strong rise in the average unit prices; a marked decline is observed in retail tissue in 2015 when retail sales in current US\$ is taken into consideration.

Growth in volume sales slows down in accordance with the stagnation in the overall consumer income level.

Although consumers' income level stagnates, positive growth in volume sales of retail tissue continues. Rapid urbanisation/modern grocery retailers. Urbanisation leads increasing per capita retail tissue consumption.

Rapid widespread of modern grocery retailers, in particular discounters, positively affected per capita consumption of retail tissue in Turkey.

Per capita consumption demonstrated healthy growth in Turkey, but still barely exceeds the half of Western Europe average. Which is why, retail tissue in Turkey harbours significant potential for further growth.

The gap between per capita retail tissue consumption in Turkey and per capita consumption in Western Europe will continue to become narrow. Expected per capita consumption in Western Europe in 2020: 8,90kg.

A portrait of Magnus Groth, a middle-aged man with light brown hair, wearing a dark suit jacket over a light blue button-down shirt. He is smiling slightly and looking towards the camera. The background is blurred, showing what appears to be a crowd of people.

GLOBAL

SCA to split group into two listed hygiene and forest products companies

SCA has said it will split the group into two listed companies in 2017, hygiene and forest products. Following a split, there will be two listed companies. One will be a hygiene company including SCA's current business areas personal care and tissue. The second, a forest products company including all forest products operations and all the forest land owned by the SCA Group.

The planned split will be completed through a distribution of the group's hygiene business to its shareholders.

Pär Boman, chairman of the board of directors of SCA, said: "For the Annual General Meeting 2017, the board of directors plans to present a proposal for the distribution and listing of the company's hygiene business.

"Our hygiene and forest products businesses are two strong operations with attractive offerings in their respective industries."

Magnus Groth, president and chief executive of SCA added:

"After a thorough analysis, our conclusion is that a split of SCA into two listed companies is the best way to continue to create shareholder value, customer benefits and further development opportunities."

An evaluation, mainly based on value creation and flexibility for the shareholders, has been made of various methods and structural alternatives to achieve a complete split of the two businesses into two independent companies. Elsewhere, SCA has said it will integrate its business in the Middle East, India and Africa into consumer goods, with the integration of its Business Unit MEIA (Middle East, India and Africa) into Business Unit Consumer Goods.

The integration will be effective as of 1 November 2016.

SCA president and chief executive Magnus Groth: "The best way to continue to create shareholder value, customer benefits and further development opportunities."

Solenis boosts product offering with Nopco acquisition

Solenis is to acquire the shares in Nopco Holding and related subsidiaries (Nopco), a producer and supplier of advanced chemical solutions for the pulp and paper industry.

The transaction is expected to close in the fourth quarter of 2016, following receipt of customary regulatory approvals in Germany.

Nopco produces defoamers, collecting agents, deposit control agents, and insolubilisers for the European pulp and paper, industrial and recycling markets. John Panichella, Solenis president and chief executive, said: "This is a unique opportunity to combine Nopco's cutting edge technologies with Solenis' strong global channel to market."

Solenis is a global producer of specialty chemicals for the pulp, paper, oil and gas, chemical processing, mining, biorefining, power and municipal markets.

The company's product portfolio includes a range of process, functional and water treatment chemistries.



Above: Unique opportunity; Solenis president and chief executive John Panichella

Södra starts-up 700,000tpy pulp line at Värö

Swedish pulp giant Södra has started up its 700,000tpy state-of-the-art pulp line at its Värö mill in Sweden.

The site is now amongst the largest in the world following an investment of SEK 6 billion to expand for the future; some SEK 4 billion has been invested in the pulp mill.

Production has commenced and capacity increased from 425,000 tonnes to 700,000 tonnes annually, with the official inauguration taking place on 30 September in the presence of Sweden's King Carl XVI Gustaf.

The mill is now one of the world's largest, most modern and energy-efficient mills for the production of softwood sulphate pulp.

Lars Idermark, president and chief executive of Södra, said: "The expansion is an important part of our strategy and a necessary move if we are to develop our operations.

"The paper pulp market is growing globally, and we will now have the opportunity to meet this demand and to continue growing together with our

customers.

"We already deliver high-quality pulp to several different customer segments, which we will now be able to develop even further.

"This expansion will allow us to further strengthen our market-leading position

and remain our customers' preferred supplier."

The company added that the expansion is "a prerequisite for generating long-term value for Södra's members and for its pulp customers in the global market".



Keen on the right shoe?

PrimePress XT Evo

The newest evolution in shoe presses



The *PrimePress* XT Evo is the latest development in shoe press technology, boosting tissue production and drying efficiency. The new ANDRITZ shoe press gently dewateres

the web, but still achieves a far higher post-press dryness than conventional presses. Due to the new energy-efficient press design, improved dewatering and reduced need for thermal drying, the

PrimePress XT Evo achieves significant savings in energy. Alternatively, a noticeable increase in capacity can be achieved. For further information, please contact: tissue@andritz.com



www.andritz.com

We accept the challenge!



Above: The Fornaci di Barga-based premises will allow check-outs of four complete converting lines simultaneously for a production capacity of 36 lines per year

ITALY

PCMC Italy boosts production capacity after inaugurating facilities

PCMC Italy has officially opened its three new buildings in Fornaci di Barga, Italy. The premise covers 14,000sqm and will allow check-outs of four complete converting lines simultaneously for a production capacity of 36 lines per year, together with a space for the administration, production and the sales departments.

The company officially celebrated the opening on 12 October with around 1,000 members of its staff and their families, customers and guests.

Sergio Casella, PCMC'S president, told TWM: "The grand opening of our new plants represents our company motto - that we measure our success by the way we touch people's lives."

"Our goal has been to create a working environment where our people can really feel at home. They have been involved in many decisions on how to organise and set the new offices and production areas. Those are now their buildings."

To underline this concept, PCMC invited its team members and their partners and children.

Casella added: "Children are the future. During our inauguration, they cut the blue ribbon at the beginning of the event sending the message that PCMC and its customers are working together to guarantee a future to them."

This year, PCMC shipped 20 complete converting lines around the world and more than 22 complete converting lines will be shipped in 2017.

The launch of the new plant is also an important step for the region: "PCMC is bringing life and hope again in an area where, due to the recent economic crisis, many companies have suffered and have been forced to move or close down," Casella said.

"Our plant opening underlines the policy of the Barry-Wehmiller group to continue to invest in the territories where PCMC is located."

Multipack targets tissue with sale of Pharma-Cosmetic branch

Packaging equipment company Multipack has realigned its business focus to the international tissue market by selling off its pharmaceutical and cosmetic branch. The company specialises in primary and secondary packaging systems for tissue, pharmaceuticals, cosmetics and foodstuffs industries.

It added that the sale of the branch will

not change the company's business asset. Davide Angelini, general manager of Multipack, said: "We will continue to produce packaging solutions for diverse industrial sectors, keep developing innovative solutions to generate added value and to cut costs for our customers."

"Our machines have been created around the product, generating up to 40% prototypes of the yearly production."

"This operation strengthens our focus on tissue where the new TEKNA ROLLEvolution is about to be ready and we believe will be a milestone in the roll wrapping machines."

He added that the business is also working on other products to be launched in 2016.

Eurovast restarts former Eurotec tissue mill in Italy, plans more investments

Production is up and running again at the former Eurotec Fabbriche di Vallico tissue mill near Lucca.

Eurovast, which took over the 20,000sqm site earlier this year, restarted production at the beginning of July.

Eurotec bought the former Fabbriche di Vallico mill from the German tissue giant WEPA in 2014.

However, the company, which had been active as a commercial enterprise for parent reels, had to stop production in June last year due to financial difficulties. In March, Eurovast won the bid for the production site and related assets at an auction. It reportedly paid Euro 650,000 (\$725,342) for the site.

Following the acquisition, a spokesperson for the new owner said there were some investments in store for the latest addition to the group.



Above: The 5,600mm wide machine is said to be Europe's largest Steel Yankee Dryer for tissue production

WEPA starts up largest TT SYD ever installed in Europe

WEPA has successfully started up a Toscotec-supplied TT SYD-18FT at its Cassino mill.

According to the supplier, the 5,600mm wide PM3 is Europe's largest Steel Yankee Dryer for tissue production.

Bernhard Gross, WEPA Italia managing director, said: "High quality of product and energy saving were at the base of the project.

"WEPA is going to get more and more relevance in the European market.

"Cost leadership and attention to consumers and customer needs, as well as sustainability in company management and production is part of WEPA's future strategy."

The scope of the supply also included a double layer fully hydraulic TT Headbox-MLT with polished pipes and a Yankee steam and condensate removal system.

All equipment was provided on a turn-key basis including engineering, supervision and installation.

FRANCE

SCA targets French tissue mills with restructuring measures

SCA has announced a series of restructuring measures at its production plants in Hondouville and Saint-Etienne-du-Rouvray.

It includes the closure of the oldest tissue machine at the AfH producing Hondouville site and staff reductions at both sites.

In a statement the company said: "The restructuring measures are aligned with the company's strategy to improve

production efficiency in order to drive cost and capital efficiency and further increase value creation in the tissue business area."

In Saint-Etienne-du-Rouvray, SCA will divest production of tabletop products for consumers to re-focus the plant's core operation: kitchen roll and toilet paper production.

It said the measures will lead to lower production costs and increased competitiveness. The French market was SCA's fourth-largest market based on sales in 2015 and the company added that it is still "a prioritised market".

CHILE

CMPC's market pulp sales in 2Q16 boom 56% year-over-year; net revenues 0.5% up to \$1.1B

Pulp and paper producer CMPC released its second quarter results showing consolidated sales of \$1.1 billion, 0.5% higher than a year ago.

Pulp sales volume rose 56% year-over-year to 791,000 tonnes due to the new 1.3 million tpy bleached eucalyptus kraft (BEK) pulp capacity of Guaíba mill, which kicked off in Brazil in May 2015.

The company's EBITDA totalled \$221 million in the quarter, up 2% compared to a year ago, with a 14% margin, compared to 11% in 1Q16 and 12% in 2Q15. Net Debt/EBITDA ratio ended the quarter at 3.2x, up from 3.1x in 1Q16 and down from peak of 3.8x in 2Q15.

CMPC also posted a net income of \$47 million, compared to \$60m in 1Q16 and \$28m in 2Q15.

News from www.risiinfo.com

CANADA

Kruger invests \$55m on new PM at Crabtree plant

Tissue manufacturer Kruger Products has invested \$55m to add a paper machine at its Crabtree Plant in Canada. PM8 will produce tissue products primarily for the AfH market and will be installed in a new building that will soon be under construction. It is expected to be commissioned by end of summer 2017. The project will increase the site's annual production by 20,000 metric tonnes. Kruger has received a \$39.5m loan from Investissement Québec, which is acting as an agent of the government of Québec in this project.

Mario Gosselin, Kruger Products chief executive, said: "By granting a loan for this project, the Québec government is enabling Kruger Products to continue to grow in Québec and to continue to contribute to the region's economic growth."

Kruger Products manufactures quality tissue products for household, industrial and commercial use.

ARGENTINA

Celupaper starts up new line

Celupaper has started up its Toscotec-supplied PM3 at its Papelera Nicaragua mill.

Its start-up follows the rebuilding of PM2, which supplier also carried out in February 2015.

It will increase the mill's daily tissue production to 50 tonnes of different grades of high-quality tissue.

Celupaper owner Mario Speranza said: "A new era for Celupaper has just begun.

"We want to play an important role in the South American market and our vision is to meet demand with high quality products following the market growth and retaining the customers.

"Now we are waiting for the next Toscotec PM4 that will be started up by the end of 2017."

PM3's delivery included the approach flow system featuring ultimate Toscotec technology TT SAF®, a MODULO tissue machine with single-layer headbox, single press configuration and TT SYD-2500MM featuring TT Milltech-MYH (monosystem gas heated hood).

The supply also comprised an electrification and controls package, and a steam and condensate system.

AMERICA

Resolute's Calhoun tissue operation on track for 1Q 2017 start-up

Resolute Forest Products has completed the commissioning of its first tissue converting line at its tissue facility currently under construction in Calhoun, Tennessee.

The remaining two lines will be commissioned by the end of the year.

Richard Garneau, president and chief executive, said: "We are on schedule with the \$270m project, our largest investment since 2010.

"The first production of bath tissue and towel came off the converting line on 17 August, representing an important milestone.

"We are confident that the new tissue machine will be operational as planned, in the first quarter of next year."

Resolute's new tissue machine and converting operations are being built at its Calhoun pulp and paper mill, which he added will be one of the most competitive and efficient tissue operations in North America.

At full capacity it will produce 66,000 short tonnes per year of At-Home, premium bath tissue and paper towel, focused on the growing private-label market.

Construction of the Advantage-NTT machine is underway.

Garneau added: "We are proud to have one of the most modern and flexible NTT machines, specifically designed for the retail market in North America.

"It is important to position ourselves as a preferred supplier to major private-label retailers by delivering the highest quality product for their store brands."

Little Rapids boosts production

Little Rapids Corporation has signed a contract with Voith Paper Brazil to purchase a new tissue paper machine. The new machine will replace the existing PM3, located in Shawano Wisconsin (USA).



Above: \$270m project is largest investment since 2010; Richard Garneau, Resolute Forest's president and chief executive

The new machine will produce 119 metric tonnes per day at a speed of 1,830m/min.

Except for the existing Yankee Dryer, which will be re-used, the machines' components will be new and based on Voith's machine model VTM 3.

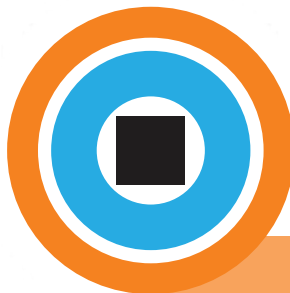
In addition to the new tissue machine and auxiliaries, Voith's scope of supply includes: stock preparation, approach

flow system, steam box, dust and mist removal systems, DCS systems and field services.

The project is scheduled to start in fall of this year and the start-up is expected for the end of 2017.

Little Rapids Corporation was founded by Charles Egan in 1947 and remains a family-owned business.

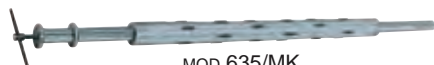
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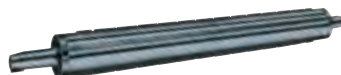
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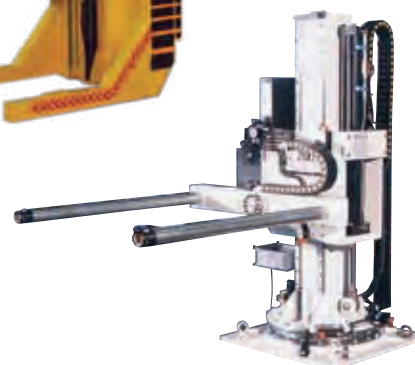
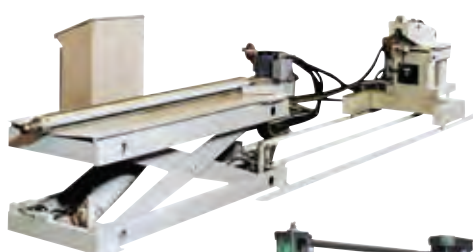


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TAIWAN

Cheng Loong tissue line breaks world record

Supplier Voith has said its tissue line at Cheng Loong Corporation has broken world records "substantially ahead of the industry in several indexes".

TM16 has an operating speed of 2,001m/min, which the supplier said is the fastest speed with a steam hood in the world, leading the industry in several performance indexes.

The company said: "In the guarantee test, TM16 kept running at 2,001m/min for eight hours and reached all guarantee indexes.

"At this record-breaking high speed, the steam consumption is still very low, at only 1.65 metric tonne of steam per tonne paper. And the after-press dryness, at up to 46.5%, is very high. All these indexes represent the highest industry standards." Start-up of the line took place in September 2015. With a wire width of 3,680 mm, TM16 is designed for a maximum speed of 2,200 m/min.

It is equipped with the NipcoFlex T shoe press, a 5.5 metre Steel Yankee and a high-performance steam hood.

Established in 1959, Cheng Loong Corporation is Taiwan's largest manufacturer of industrial paper and paper converting products.

It has four paper mills, seven paper box plants and one business form plant. It has also established manufacturing and sales sites in China, Vietnam, Japan and the United States.

ASIA

Vinda International integrates SCA Asia tissue business, reports 19% increase in 1H 2016 revenue

Vinda International Holdings has reported a 19% increase in revenue in the six-month period ending in June 2016, to HK\$5.7bn, following the integration of the SCA Asia tissue business.

Operating profit rose 9.9% to HK\$514.6 million. Net profit decreased by 2.9% year on year to HK\$321 million due to increased financing and taxation cost, the company said.

"The top priority for Vinda is to build on its strong foundation on the core tissue business.

"At this record-breaking high speed, the steam consumption is still very low, at only 1.65 metric tonne of steam per tonne paper. And the after-press dryness, at up to 46.5%, is very high. All these indexes represent the highest industry standards."

Voith

"The Chinese market remains very competitive and we continue to invest significantly in brand building."

News from www.risiinfo.com

Hwagain Paper kicked off trial runs on five new tissue PMs with a combined capacity of 18,000tpy in the first half of August at its mill in Ganzhou city, Jiangxi province, in eastern China.

BANGLADESH

Bashundhara Paper Mills boosts capacity

Bashundhara Paper Mills has signed up Andritz to supply a turnkey tissue production line at its site. The PrimeLineCOMPACT VI tissue machine has a design speed of 2,100m/min and a paper width of 2.85m.

Start-up is scheduled for the end of 2017 and once up and running it will

produce high-quality facial wipes, toilet paper and napkins. The scope of supply includes the complete stock preparation, the tissue machine, as well as the complete automation and electrification.

CHINA

Hwagain Paper starts five tissue machines in Jiangxi province

Hwagain Paper kicked off trial runs on five new tissue PMs with a combined capacity of 18,000tpy in the first half of August at its mill in Ganzhou city, Jiangxi province, in eastern China.

Provided by an unnamed Chinese supplier, each unit is 3.9m wide and has an operating speed of 200m/min.

The Ganzhou mill operates several other PMs with a combined capacity of around 60,000tpy of printing and writing paper and 140,000tpy of tissue, including two 60,000tpy Andritz tissue machines, which started up in 2013 and 2014 respectively.

News from RISI (www.risiinfo.com)

RUSSIA

Turinsky's fire-hit tissue PM down until at least end December

Turinsky Pulp and Paper Mill will not be able to restart its blaze-damaged tissue machine PM1 before the end of December.

The mill suffered Rouble 300 million in damages following a large fire on 17 August, which mostly hit its tissue

converting building and the warehouse. The mill's offset paper production and packaging equipment was also affected due to damage to the building's roof, according to the local authorities of the Sverdlosk region where the mill is located.

The Turinsky mill houses two paper machines – the 7,500tpy tissue machine PM1 and the 22,000tpy offset paper machine PM2.

News from RISI (www.risiinfo.com)

The mill suffered Rouble 300 million in damages following a large fire on 17 August, which mostly hit its tissue converting building and the warehouse.

Henan Yinge currently has around 3,000 staff and operates several sites in Henan and Sichuan provinces with a combined capacity of around 700,000tpy of various P&P grades, mainly tissue and recycled containerboard.

Henan Yinge's principle shareholder listed for sale in China

China's Henan Yinge Industrial Investment has revealed that its principle shareholder has been put up for sale for RMB 3.08 billion (\$457 million).

Luohe Yinge Industrial Group holds a 47.35% stake in the Shanghai-listed pulp & paper (P&P) producer.

It is itself a wholly owned subsidiary of the state-owned Henan Energy and Chemical Industry Group (HNEC).

After approval from the state-owned assets administrator in Henan province, the offer was announced last month after first being publicly suggested in May.

According to the terms offered by HNEC, the qualified purchaser must be a business entity that has been registered in China for at least three years and must not be associated with HNEC or any of its subsidiaries.

So far no potential buyer has emerged.

Henan Yinge currently has around 3,000 staff and operates several sites in Henan and Sichuan provinces with a combined capacity of around 700,000tpy of various P&P grades, mainly tissue and recycled containerboard.

That includes a swing bamboo pulp line capable of producing 50,000tpy of dissolving pulp.

The once profitable P&P producer was taken over by HNEC in 2011.

It has suffered huge losses since then as a result of intense competition and the weak economy.

The company escaped a delisting crisis in 2015 thanks to RMB 195 million in asset sales and RMB 212 million in government subsidies, which helped it move out of the red.

News from www.risiinfo.com

Yusen Paper starts 13,000tpy tissue PM in Baoding; five more to follow

Yusen Paper has fired up a new 13,000tpy tissue PM in its sole mill in Baoding city, Hebei province, China.

Supplied by fellow Chinese company

Weifang Hicredit Machinery, PM2 has a trim width of 2.85m and a design speed of 1,000min/m. The first sheet of paper rolled off the line on 20 August.

An identical unit was commissioned at the same site in September 2015. The third one is scheduled to kick off trial runs by the end of this October.

As one of the many small tissue producers in Mancheng county, Yusen Paper is expanding its capacity to increase its competitiveness and to meet stricter environmental standards.

It placed an order for four 15,000tpy tissue PMs in July and plans to bring them online in the first half of 2017.

Currently the third largest tissue producer in China, Vinda has also announced a plan to build a 190,000tpy greenfield tissue plant in Yangjiang city, Guangdong province, though few details for the project have been revealed.

By then the company's total tissue capacity will be boosted to around 135,000tpy.

Weifang Hicredit has been chosen to provide the units, each of which will be 2.85m wide and have a design speed of 1,100m/min.

News from www.risiinfo.com

Vinda gets two news 30,000tpy tissue PMs in Guangdong

Vinda International Holdings started up two new 30,000tpy tissue PMs last month at its Sanjiang mill in Jiangmen city, Guangdong province, China, raising its total tissue capacity to 1.01 million tpy.

Dubbed PM9 and PM10, the Toscotec-supplied units each have a trim width

of 3.42m and a design speed of 2,000m/min.

The site operates another eight tissue machines, with a combined capacity of 200,000tpy.

According to the latest capacity investment schedule put forth by the company, a Toscotec-supplied 30,000tpy tissue PM will come on stream at its Laiwu mill in Shandong province by the end of this year.

Currently the third largest tissue producer in China, the company has also announced a plan to build a 190,000tpy greenfield tissue plant in Yangjiang city, Guangdong province, though few details for the project have been revealed.

"We do not have overcapacity at all, but some of our competitors still do. That puts a lot of pressure on prices in China," Vinda chief executive Christoph Michalski said at a press conference last month when the Hong Kong-listed tissue giant published its financial

results for the first half of 2016.

The company recorded a 2.9% drop in its net profit to HK\$321m (\$41m) in the six-month period ending June 2016, largely due to the ballooning financing costs of taking over its majority shareholder SCA's business in Asia.

Revenue in its tissue segment, which remains Vinda's core business, increased by 7.4% year on year to HKD 4.92 billion during the first six months of 2016.

That was down from 25.5% a year ago, as the company has slowed down its capacity expansion in the ever-more challenging tissue market in China.

News from www.risiinfo.com

Vinda International Holdings started up two new 30,000tpy tissue PMs last month at its Sanjiang mill in Jiangmen city, Guangdong province, China, raising its total tissue capacity to 1.01 million tpy. Dubbed PM9 and PM10, the Toscotec-supplied units each have a design speed of 2,000m/min.

PM 19 is the third unit to have come on stream out of eight 60,000tpy tissue machines that Hengan ordered in 2012 when the company mapped out an aggressive scheme to boost its overall tissue capacity to almost 1.4 million tpy by the end of 2015.

Hengan fires up 60,000tpy tissue PM in Anhui

Hengan International has kicked off trial runs on a new 60,000tpy tissue PM at a mill in Wuhu city, Anhui province, in eastern China.

When the new machine is fully operational, the company will boast a total tissue capacity of nearly 1.1 million tpy - still the second largest tissue producer in the country.

Supplied by Valmet and dubbed PM19, the unit has a trim width of 5.6m and an operating speed of 1,900m/min.

An identical machine, dubbed PM 20, is planned to start up in late October at the same site, according to a contact close to the project.

PM 19 is the first new production line to have started up after the Hong Kong-listed company announced in its annual report in March that it plans to add 120,000tpy of tissue capacity by mid-2017.

Looking at an older capacity expansion plan, PM 19 is the third unit to have come on stream out of eight 60,000tpy tissue machines that Hengan ordered in 2012 when the company mapped out an aggressive scheme to boost its overall tissue capacity to almost 1.4 million tpy by the end of 2015.

The tissue giant will install the new machines, four from Andritz and four from Valmet, in pairs at its existing sites in Shandong's Weifang city, Anhui's Wuhu city, Hunan's Changde city and Chongqing municipality.

But the projects have been delayed due to overcapacity on the tissue market in China. Hengan first revised its capacity investment schedule in mid-2014, this time intending to increase its tissue capacity by 120,000tpy in the second half of 2014, by 240,000tpy in 2015 and by 120,000tpy in 2016.

Yet the company has slowed down its expansion much further in a bid to cope with the oversupplied market and intensified competition.

Besides the newly started PM 19 at Wuhu mill, only a pair of Andritz PMs are already online so far.

They were fired up in September 2014 and January 2015 at the Changde mill.

News from www.risiinfo.com

Lee & Man to get two more 60,000tpy TMs in Dongguan

Lee & Man Paper Manufacturing is continuing its ambitious tissue expansion program, planning to add a pair of 60,000tpy tissue machines at its Hongmei mill in Dongguan city, Guangdong province, China.

The company has signed up Voith to provide the TMs. Each will have a trim width of 5.6m and a design speed of 2,200m/min, and will also feature a shoe press and a 5.5-metre steel Yankee Dryer. They are expected to commence production in July and September next year, according to the supplier.

The project is supplementary to the recycled containerboard producer's recently-announced target of bringing eight new TMs online at three mills by the end of 2017.

Lee & Man currently operates three TMs with a combined capacity of 150,000 tonnes/yr at its Chongqing mill in southwestern part of China.

It is erecting four 60,000 tonne/yr Valmet TMs at the site, with their startups scheduled by the end of this year.

The company has also ordered two 60,000 tonne/yr TMs from Valmet for its Hongmei mill in Guangdong province, and another pair of 60,000 tonne/yr TMs from Voith for its Jiujiang mill in Jiangxi province.

These four units are planned to come on stream in 2017.

If all these new projects start on time, Lee & Man will boast a total tissue capacity of 750,000 tonnes/yr before the end of 2017, ranking it as the fourth largest tissue producer in China.

Elsewhere, Lee & Man Paper Manufacturing has fired up two 60,000tpy tissue machines at its Chongqing mill in southwestern China, boosting its total tissue capacity to 270,000tpy.

TM5 and TM6 came online in September and were supplied by Valmet. Each has a trim width of 5.6m and a design speed of 2,000m/min.

Another two identical TMs are being installed at the same site, with startups scheduled for the end of this year, according to a source from the company.

All four machines will be producing toilet and facial tissue grades furnished

with virgin wood pulp and bleached bamboo fibre.

The Chongqing mill is currently the company's only operating tissue paper production site. Four tissue PMs with a combined capacity of 150,000tpy had already been commissioned there prior to the start-ups of TM5 and TM6.

The facility also runs a 165,000tpy bamboo pulp line and several recycled containerboard PMs with a combined capacity of around 1.1 million tpy.

Already a leading recycled containerboard producer in China, Lee & Man has been making great strides in tissue expansions not only at the Chongqing plant but also at other existing sites.

A pair of 60,000tpy TMs from Voith will come online at its Jiujiang mill in Jiangxi province by the end of March 2017.

If all these new projects come on stream on schedule, Lee & Man will evolve into the fourth largest tissue producer in China before the end of 2017, boasting a total tissue capacity of 750,000tpy.

News from www.risiinfo.com

Zhuji Paper fires up 25,000tpy tissue PM in Guangdong

Shaoguan Nanxiong Zhuji Paper has started trial runs on a new 25,000tpy tissue PM at a mill in Nanxiong city, Guangdong province. Andritz provided the PM, which came online last month. The order also included the complete stock preparation plant, automation, and drives.

It has a trim width of 2.85m and a design speed of 1,600m/min.

Its startup was initially scheduled for the end of 2015. The company did not explain the delay.

Zhuji Paper has an existing capacity of 65,000tpy of bamboo pulp and 35,000tpy of uncoated printing and writing paper at the same site.

In-house bamboo pulp is being used to feed the new tissue PM.

Founded in 1992, Zhuji Paper has been in the red in recent years due to intense competition in the pulp and paper industry in China.

In order to save the loss-making business, its parent company, Shenzhen-listed Guangdong Shaoneng Group, announced a plan to diversify into the tissue sector in 2014.

The Nanxiong tissue project involved a total investment of RMB 178.9m.

News from www.risiinfo.com

India's T&T - a market profoundly influenced by cultural preferences

C F

Bill Burns

Senior consultant,
Fisher International

The second most populous nation in the world, India is ranked fifth in a worldwide listing of countries producing paper products. With a population of 1.25 billion, one would expect India to have significant capacity in Towel and Tissue (T&T) production. In actuality, it has a very modest T&T capacity base. India produces about 15.5 million metric tonnes of paper annually (Figure 1) but only one percent, 141 thousand tonnes, are T&T products placing the country 40th in a worldwide T&T ranking. By contrast, India ranks sixth and seventh when it comes to packaging, printing and writing, respectively.

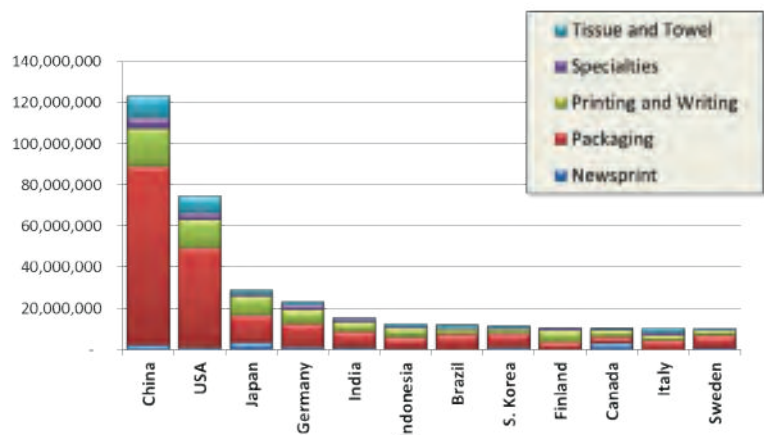
The question is why isn't there a higher concentration of T&T in India? Is it general economic conditions, ability to compete with other areas or regional suppliers, or cultural norms? The country's GDP is estimated around \$8 trillion with a growth rate of 7.3%, which makes it the fourteenth fastest growing economy in the world. The strength of the economy does not appear to be suppressing the growth of T&T in this otherwise robust paper producing country.

Regionally, papermaking in the Indian Subcontinent (India, Pakistan, and Bangladesh) has a similar grade distribution

The country's GDP is estimated around \$8 trillion with a growth rate of 7.3%, which makes it the fourteenth fastest growing economy in the world. The strength of the economy does not appear to be suppressing the growth of T&T in this otherwise robust paper producing country.

Worldwide Paper Production by Country

(Annual Capacity Greater than 10 Million Metric Tonnes)

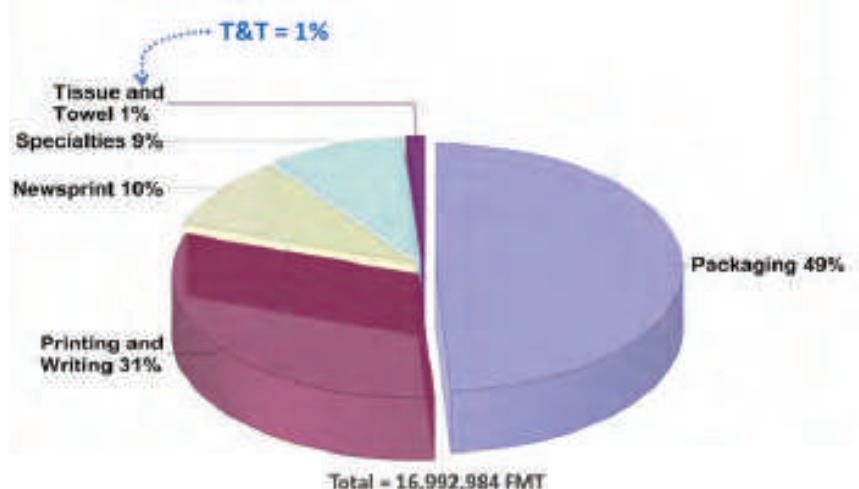


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Figure 1 Worldwide Paper Production by Country

Indian Subcontinent P&P Market



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Figure 2 Indian Subcontinent P&P Market

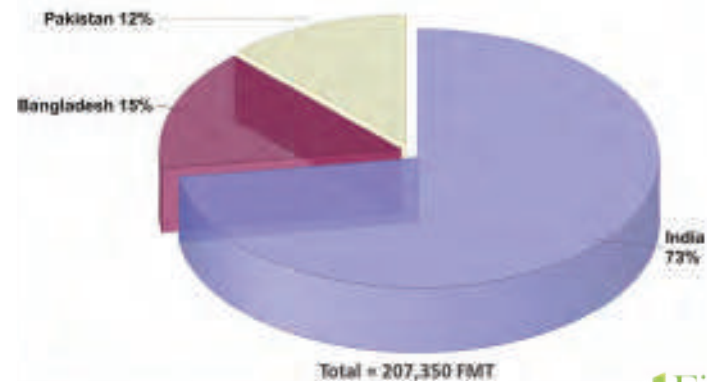
as India (Figure 2) with T&T representing only 1% of the paper capacity. It is noteworthy that paper production in the Indian Subcontinent is heavily influenced by India's more than 70% share (Figure 3). Even with the country being the predominant paper producer in the area, it is not unreasonable to assume lower cost neighbouring countries suppressing the development of T&T in India (demographically, the country has 77% of the total population among the three papermaking countries). An analysis of the Indian Subcontinent's T&T growth trend does indicate a dynamic market with a lift in capacity leading into 2011. Growth appears to have peaked in 2012 and has actually fallen some in 2015 (Figure 4). India, representing the bulk of the market, appears to set the area trend (Figure 5). There is little announced capacity increases in the area or the country. Consequently it appears the growth trend will be flat for the next few years.

If it is not due to economic conditions or area competition, that leaves just cultural norms as the reason the T&T market is suppressed when compared with other paper producing countries. An investigation into usage practices that would impact towel and tissue consumption provides good insight as to why the market is slow to develop. Personal preferences are heavily weighted to the use of water as a cleansing medium. Even in urban settings where squatting facilities have been traded in for western-style commodes, it is not uncommon to have flush toilets retrofitted with personal cleansing techniques reliant on water rather than paper, which is rejected by many as unhygienic.

Looking at capacity versus population, we see that the Indian Subcontinent has the lowest per-capita capacity relative to many other populous countries (Figure 6). Indeed, per-capita capacity is akin to countries with the very lowest ratios like Ethiopia and the DR Congo. The contrast with countries with high per-capita numbers like Germany, Japan and United States is dramatic. Any significant change in the foreseeable future is questionable. Not only would the culture need to change but the infrastructure needed to accommodate a paper-based process would also need to be put in place.

The remainder of this article will concentrate on the make-up and local competitiveness of India's T&T operations. The fibre base of the three Indian Subcontinent countries varies widely. India is a 60/40 mix of Kraft and Recycle pulp (Figure 7). Interestingly, Bangladesh is all virgin pulp and

Indian Subcontinent T&T Market Share

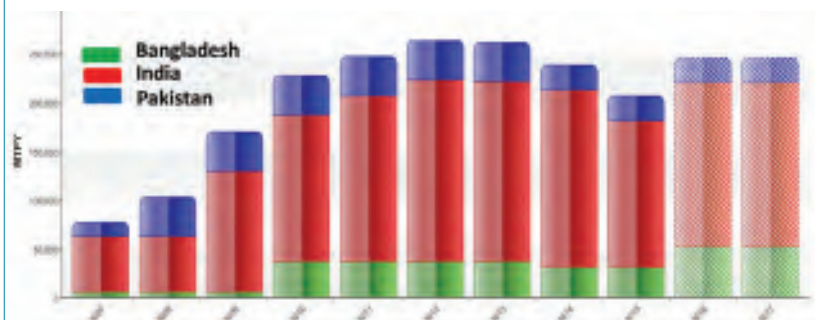


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Figure 3 Indian Subcontinent T&T Market Share

Indian Subcontinent T&T Growth Trend

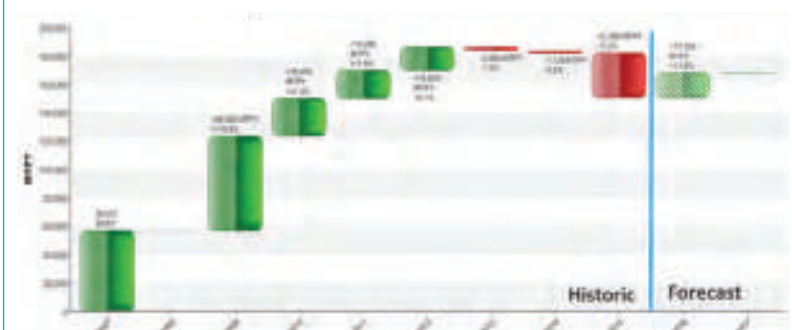


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Figure 4 Indian Subcontinent T&T Growth Trend

India's T&T Market Growth Trend



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Figure 5 India's T&T Market Growth Trend

Indian Subcontinent T&T per Capita Capacity Relative to Top 20 Most Populous Countries

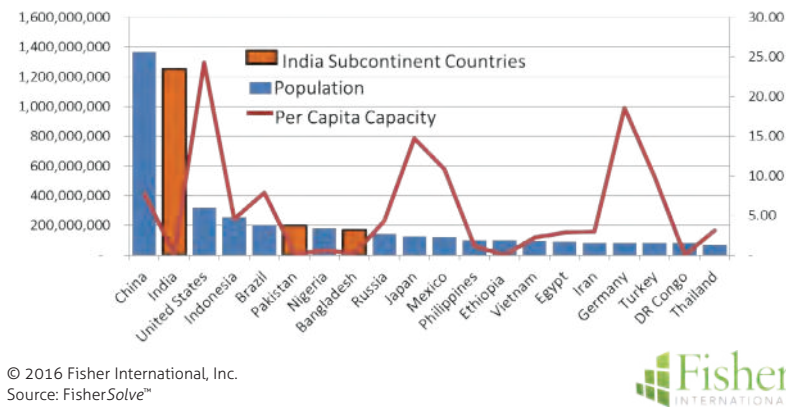


Figure 6 Indian Subcontinent T&T per Capita Capacity, Relative to Top 20 Most Populous Countries

Indian Subcontinent T&T Fibre Base

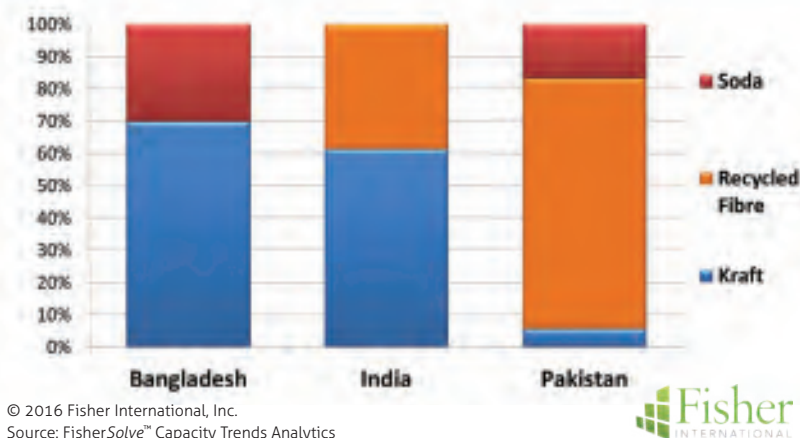


Figure 7 Indian Subcontinent T&T Fibre Base

India's T&T Machines – Key Metrics

PM Year Installed	Average Technical Age	Average PM Speed, MPM	Average PM Trim, cm	Average TPD/Trim Width, MTPD/cm
1960 - 1969	47.75	505	448	0.26
1970 - 1979	42.19	287	232	0.11
1980 - 1989	27.56	433	342	0.27
1990 - 1999	19.31	883	485	0.37
2000 - 2009	8.82	838	342	0.28
2010 - 2020	8.71	850	348	0.40

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Source: FisherSolve™ Capacity Trends Analytics



Figure 8 India's T&T Machines - Key Metrics

Pakistan is almost exclusively recycled. As we will see later, India has a cost advantage with its mix. Its T&T machines can be characterised as small and slow (less than 500mpm) to modest (less than 900mpm) speed machines with three metre class widths. Install dates go back to 1960's with two machines being added since 2000 (Figure 8). Mill ownership is entirely national with three of the nine companies representing 60% of the capacity (Figure 9).

A T&T cost curve for the Indian Subcontinent shows India holding the most desirable cost position (Figure 10), driven primarily by fibre. Looking at today's cost may be short sighted in considering overall and over time competitiveness. Carbon mitigation could represent a real future risk as climate change forces carbon reduction by heavy emitters. In this regard, India has a high exposure due to reliance on coal as a fuel. Within the area, India has a significantly higher carbon profile than the other countries (Figure 11). On a larger stage India is fourth quartile and has one of the highest carbon profiles among T&T producing countries worldwide. Over time, this GHG emissions vulnerability can be expected to absorb capital for either emission containment or for investment to change fuels and its concomitant consumption costs. Either of these alternatives will drive some additional cost into the paper.

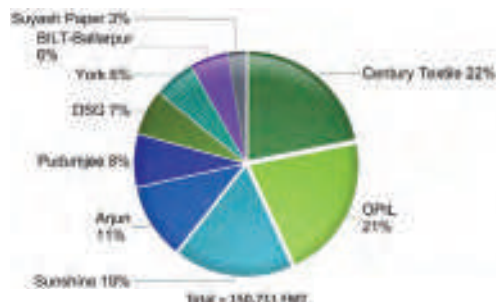
The source for market data and analysis in this article is FisherSolve™. Data tables behind Figures 1 - 11 can be obtained from Fisher International. Email requests to info@fisheri.com.

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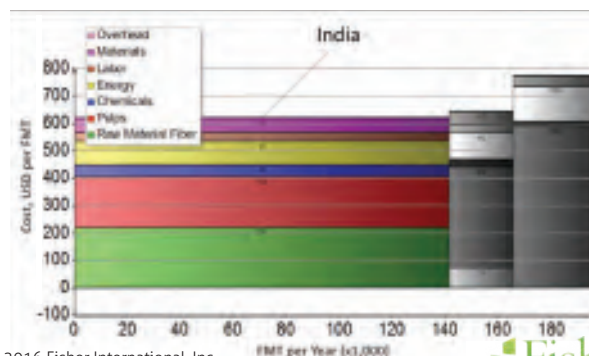
India's T&T Paper Mill Ownership



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Source: FisherSolve™



Indian Subcontinent T&T Cost Curve



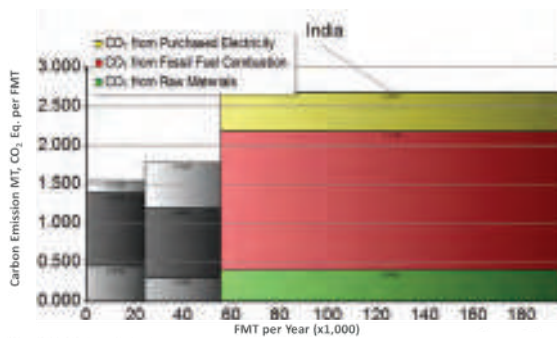
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Figure 9 India's T&T Paper Mill Ownership

Figure 10 Indian Subcontinent Cost Curve

Indian Subcontinent T&T Carbon Emission Curve



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Source: FisherSolve™ Carbon Benchmarking



Map: India's T&T Mill Locations

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Consumer tissue in India: Value in focus but significant long-term opportunities ahead

India remains one of Asia's fastest-growing economies. Real GDP is expected to increase by 7.3% in 2016, while unemployment in the country is expected to come down from 5.1% in 2015 to 4.8% in 2016. Per capita disposable incomes have been on the rise. During the 2015-2030 period, total disposable income in India will increase by a cumulative value of 158% in real terms, growing at an average annual rate of 6.5%. Furthermore, the country's current population is close to 1.3 billion, and is expected to overtake China as the world's most populous country in less than 20 years.

At the same time, India still faces significant challenges, such as income inequality. Some 46% of the population still lives below the poverty line (US\$3.10 a day), compared to 18% in China, for example. Moreover, average disposable incomes of middle-class households are

about half those in China. Adult literacy rates, while on the rise, still fall behind a number of other developing markets in the Asia Pacific region.

India's economic progress, increases in disposable incomes and favourable demographic trends certainly create a platform for consumer tissue growth. However, high levels of poverty and price sensitivity, coupled with traditional preferences for water cleansing, continue to pose challenges for the industry and require further investments in product development, pricing, distribution and marketing to increase awareness and secure further increases in per capita consumption and industry revenues.

From AfH to At-Home use

The Indian tissue market continues to demonstrate a remarkable imbalance in the away-from-home versus the retail



Svetlana Uduslivaia



Euromonitor International's
head of tissue & hygiene industry

channels compared to other markets globally. In 2015, the country's away-from-home tissue sales accounted for over 60% of the total tissue volume purchased in the country by consumers and away-from-home channels. Away-from-home tissue also continued to see strong double-digit volume growth in 2015, with further growth expected through 2020.

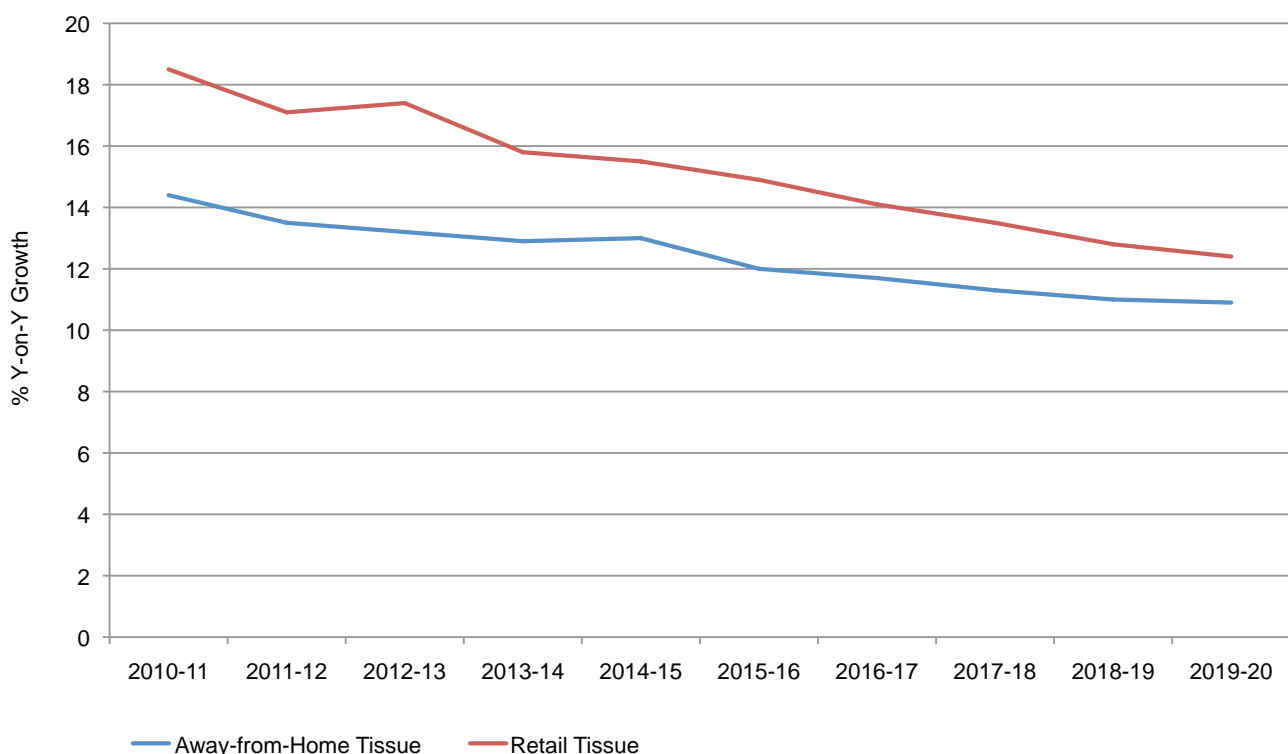


Table 1: India, retail and AFH tissue volume, % year-on-year growth, 2010-2020

Greater exposure to tissue products in AfH channels through work and leisure activities, such as dining out and entertainment, also encourages consumers to seek out tissue products in retail. In 2015, retail tissue volume in India, while still smaller than away-from-home in absolute value and volume, saw a stronger pace of growth, gaining 16% in sales over 2014.

Urban areas continue to drive tissue demand in the country, and toilet paper and facial tissues remain the major categories purchased by consumers. In 2015, these two categories accounted for 42% and 43% of retail volume sales, respectively.

On the other hand, pocket handkerchiefs, paper tableware and kitchen towels remain small, as most households continue to use traditional cloths, which are reusable and therefore more cost effective. In addition, the limited availability of these products in retail, along with comparatively high unit prices, is also the reason behind the lower consumer awareness and sales. The main demand for these products comes from urban areas in northern and western parts of the country, where consumers appear more likely to buy aesthetically appealing products.

Key growth comes from economy tissue, with limited opportunities in premium products

With high levels of poverty, India's retail market for consumer tissue shows a significant tendency towards economy products and lower prices. The marketplace remains highly fragmented, and local small manufacturers supplying unbranded economy tissue products account for a significant portion of retail tissue sales.

The strong presence of value products poses a challenge for the leading manufacturers when it comes to the development and marketing of higher-quality and higher-priced products.

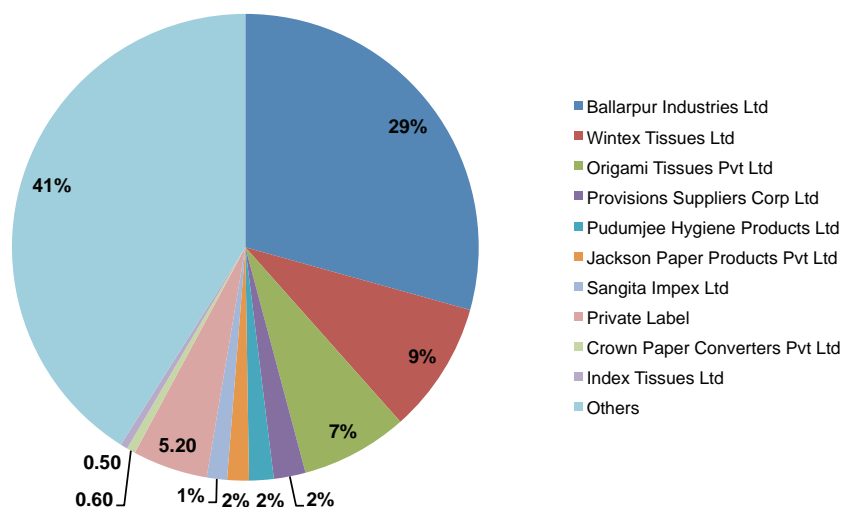


Table 2: India retail tissue, % value share by company, 2015

In fact, local and unbranded tissue products retail at a 40-50% lower price point than the branded products on the market. Small independent shops are among the key distribution channels for the lower-priced consumer tissue.

Adding to price pressure is the evolving private label tissue presence on India. For instance, retailers like Pantaloon Retail and Max Hypermarket India feature private label tissue products sold at lower price points compared to the leading brands. Moreover, they also aim at attracting the attention of more affluent households in key metropolitan areas with the launch of eco-friendly positioned tissue.

To remain price competitive and attract new customers, many leading branded tissue manufacturers have been focusing on small pack sizes and value multipacks also promoted through modern grocery retailers such as supermarkets and hypermarkets, where many urban consumers shop for monthly grocery items. To increase brand awareness, tissue manufacturers have been focusing mainly on in-store promotions and in-store displays.

Significant unmet potential but price sensitivity will remain a challenge for the industry

Overall, India has significant unmet potential in retail tissue, estimated at more than 4.5 million tonnes in volume and over US\$12 billion in value. This should certainly place India on the agenda as one of the key markets of future tissue growth. However, in the short-to-medium term, the industry will continue to grapple with significant pressures that stem from low income levels, high levels of poverty, as well as lower consumer awareness and access to products in rural areas.

Euromonitor International expects retail tissue sales in India to increase at a 14% CAGR in volume through 2020. However, a strong continuing focus on economy priced products is expected to affect value, with a projected increase below that of volume, at 8% CAGR in constant terms (US\$ at fixed 2015 prices) over the same period of time. Low prices and discounts will remain the main factors in the consumer's selection of retail tissue products, which will continue to define the manufacturers' strategies in the short and medium terms.

Adding to price pressure is the evolving private label tissue presence on India. For instance, retailers like Pantaloon Retail and Max Hypermarket India feature private label tissue products sold at lower price points compared to the leading brand

India: From shanty towns to shopping malls

When, not if, tissue consumption takes off among a population of 1.25bn. Top industry managers are preparing for that momentous cultural change. By Helen Morris, Tissue World magazine editor.

As the second most populous country in the world, India's tissue potential is very evident as well as severely hindered, at least for the near future. Driving through a hot and humid New Delhi and Kolkata for this issue's Country Report sums up the many issues the country faces. Its 1.25bn residents – while providing masses of opportunity for the local and global tissue industry – are also amongst the poorest in the world, with basic facilities such as sanitation and hygiene awareness, along with income, cultural preference and illiteracy stifling progress.

During our trip, TWM passes street after street of shanty towns, thousands of people living on the edge of highways, stray dogs and cows, people washing in the streets, along with a rush of chaos and colourful saris next to vast areas of land being developed for shopping malls and housing.

Crucially for the tissue players that TWM met, it was a case of when – not if – tissue consumption takes off in India. Here we interview Orient Paper and Century Paper to hear their thoughts on the potential.

O

Helen Morris

Editor,
Tissue World magazine

During our trip, TWM passes street after street of shanty towns, thousands of people living on the edge of highways, stray dogs and cows, people washing in the streets, along with a rush of chaos and colourful saris next to vast areas of land being developed for shopping malls and housing.



Above: Orient Paper's third tissue line supplied by Valmet under construction and expected to start up before end of 2016; see our report on the next page

Integrated Orient Paper set to double capacity

Widely regarded as “mad” to invest in tissue in culturally traditional India, the Kolkata-based company can now congratulate itself on making a wise choice. TWM went to the heart of the city’s bustling financial district to meet top managers.



Above: Rewinder combiner of second tissue line in operation

TWM met managing director ML Pachisia, chief advisor for the paper division R.C Mall, and Gautam Mullick, senior vice president marketing, at the company’s Kolkata-based headquarters. Friendly and engaging, they are keen to talk about the vast potential of their country’s tissue industry.

Part of the CK Birla group, Orient Paper is currently responding to this potential with the investment in a third Valmet-made tissue line. The 2.7m Crescent Former machine has a gas fired hood, a capacity of 25,000tpy, and start-up is expected in the middle of November 2016.

Once up-and-running it will double the company’s tissue production capacity.

The CK Birla group has integrated pulp and paper mill facilities and produces 85,000tpy of products such as writing, printing, industrial and specialty papers for the local and international market. Some 25,000tpy of its production are tissue products such as facial, toilet tissue, napkin and towel grades.

The company entered the tissue segment in 1997 with the installation of a 9,000tpy capacity tissue machine supplied by Toscotec; a second tissue line was installed in 2008, a Toscotec Crescent former with a capacity of 16,000tpy. “At the time, people thought we were mad to be investing in tissue. And while it takes time, we’ve been reaping the benefits.”

Orient Paper is currently responding to this potential with the investment of a third tissue line. The 2.7m Crescent Former machine has a gas fired hood, a capacity of 25,000tpy, and start-up is expected in the middle of November 2016.

Some 15,000tpy of the 25,000tpy of tissue is exported to countries including South-East Asia, the Philippines, the Middle East and the east of Africa. It supplies jumbo rolls, while its finished tissue products are primarily retail consumer products.



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By Tissue World magazine editor **Helen Morris**

"If you don't increase your capacity it's very difficult to be competitive in the domestic market," he adds. "The first paper machine we installed, it took time to have it all absorbed. And now on this new line, we're targeting the production of facial tissue."

R.C. Mall

Mall says the growth of the Indian tissue market is estimated at 15% per year and will be in tandem with "increased environmental awareness, hygienic needs and improvement in the levels of education and of disposable income with the masses. Our major thrust will be towards export markets, where we will sell jumbo rolls to converters."

The company's headquarters in Kolkata are in the middle of the city's thriving financial district Dalhousie Square. It's surrounded by expensive hotels, street stalls selling a vast array of food, goods and people bustling around on foot, in tuk-tuks or piled into buses and cars.

Mall says that tissue use is still marginal in India: "We don't use toilet tissue here. But we find that opinions and habits are changing quite quickly, particularly in the younger generation, so we see a lot of potential."

While the country is seeing high levels of growth in many of its larger cities, this growth is starting from a very low base line. India consumes 100,000tpy, which Mullick says is "very low". "We consume hardly anything compared to our population. But this will change. There is a market of second and third grade quality tissue products growing at around 6% year-on-year. But soon the consciousness to go for better quality will prevail and thus local consumption of high grades of tissue products shall become a major component of the growth of about 15% year-on-year."

Mullick adds that apart from a couple of high grade producers of tissues which find good support from the new genre of consumers, mills producing the lower end of products in the country started up and have then suffered closure. "Society's habits and styles are changing and that has a lot of potential for the tissue market here and in surrounding countries.

An increasingly educated urban population is a clear indication of the potential – and the target market. This is where we will see the tissue market increase. We've also seen Kimberly-Clark and SCA come into the marketplace. This confirms our analysis that the top end products will catch up. But then, we know that it's a small market and hence, we need to keep our export channels intact."

"We're not exporting facial tissue yet – that's the plan for the extra tonnage that will come on stream with the third paper machine start up."

India's economic growth is expected to continue and as such high growth in the tissue market is expected to continue for the next three to four years.

Much of the tissue consumption growth is to do with an increased awareness of hygiene: "We're seeing more and more people here placing more prominence on hygienic awareness. This will continue to go up and up, the big question is at what pace? We've seen that in the diaper market here, it's been pushed up and up. Tissue has to be there for health and hygiene. It will happen. But when? Forecasting in advance for the tissue when we will see this may be difficult but it is bound to happen."



Above: Orient Paper staff at its DCS room

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ANALYSIS & PLANNING

How big is the market and how is it growing?
How is capacity changing?
How competitive are we?
Is there profitability in exporting?
How do financial performances compare?
Which regions have the most potential?

OPERATIONS & PRODUCT DEVELOPMENT

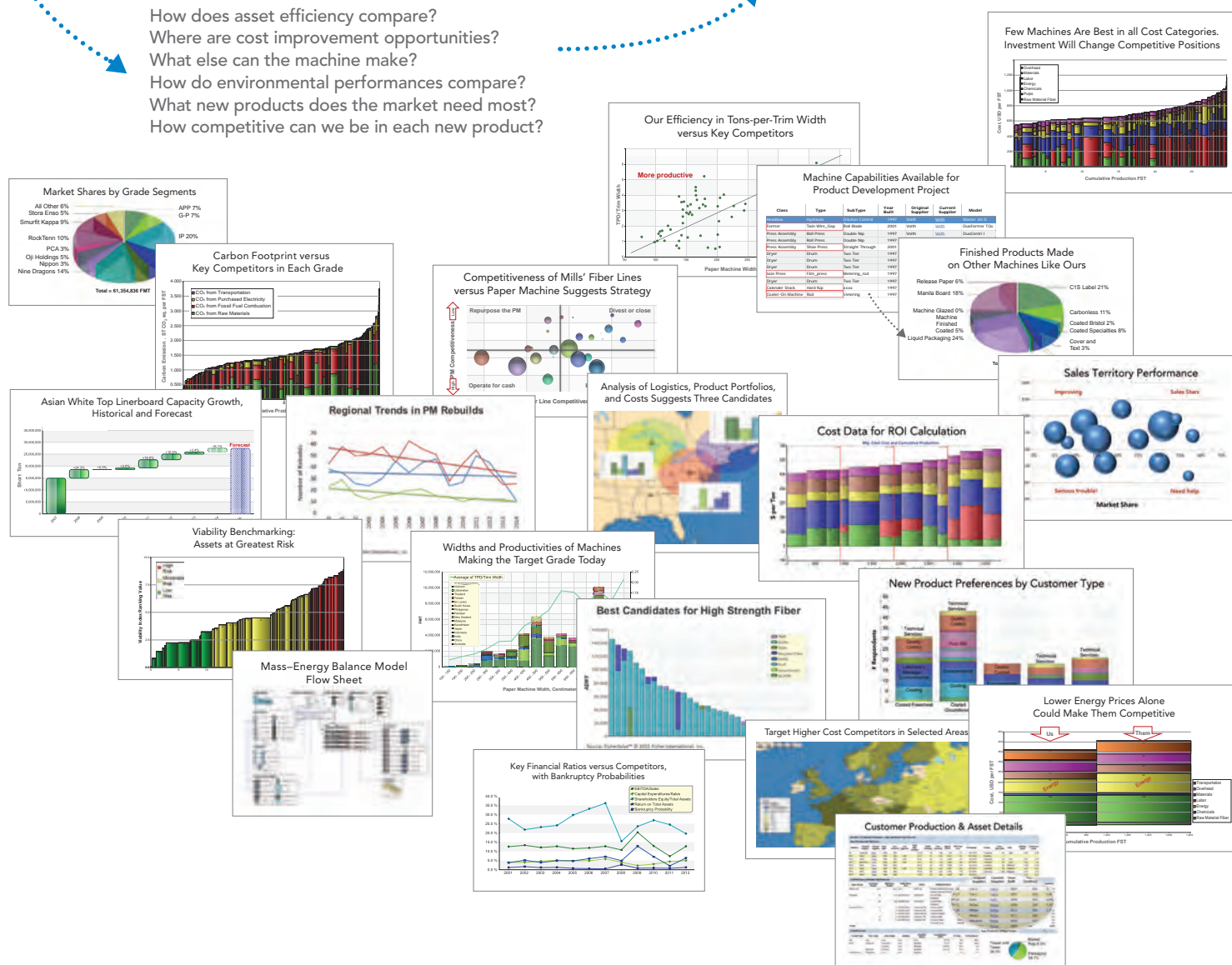
How does asset efficiency compare?
Where are cost improvement opportunities?
What else can the machine make?
How do environmental performances compare?
What new products does the market need most?
How competitive can we be in each new product?

SALES & MARKETING

Where are the best margins to be found?
How cost-competitive is each asset?
How attractive is the market for a new product?
What's in the pipeline and where's the best ROI?
Is sales well prepared?
Who's a star and who's not?

INVESTMENT, M&A, & ASSET DISPOSAL

What should be sold, repurposed, or closed?
Which competitors should be targeted?
Whose products and locations fit best?
Where should capital be spent and why?
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By Tissue World magazine editor Helen Morris



India's economic growth is expected to continue – as such high growth in the tissue market is expected to continue for the next three to four years

He adds the company is also FSC and ISO 14001 certified. While customers aren't yet asking for environmentally-friendly products, it helps with the retailers. "We have FSC certification and it enhances our customer base. We're making FSC paper and we label it FSC mixed grade."

In terms of marketing strategy, Mullick says future target markets include the AfH market: "We're raising awareness in the IT industry as these people there work in three shift patterns and it's a fairly large market. The small, independent, family-owned corner shops are also a target market and are widespread in a country like India."

Following the start-up of the third machine, the company will almost be doubling capacity: "It will largely relate to global market growth. We'd

like our home market to grow as fast as possible. The biggest challenge – that the entire capacity gets absorbed into the local India market."

Opportunities for this to happen depend largely on the spread of education and exposure to the global market as well as the changing of mind-sets. "It's just how long it takes. Economic growth, consumption levels and exchange rates are vital – we face many barriers. But we believe that we will see the growth of tissue products much more than other products."

Following the start-up of the third machine, the company will almost be doubling capacity: "It will largely relate to global market growth. We'd like our home market to grow as fast as possible. The biggest challenge – that the entire capacity gets absorbed into the local Indian market."

R.C. Mall

'We need to create the need'

The key to tissue's take off in India could be the smaller cities. Alok Prakash, chief sales officer at Century Pulp and Paper, expects to see progress in five years.

The drive to Century Pulp and Paper's (CPP) head office in New Delhi takes TWM past hundreds of local revellers covered head-to-toe with bright red and pink paint, piled high into large trucks speeding along highways or parked temporarily with music blasting out and the party in full swing.

The colourful and boisterous celebrations were in anticipation of Navaratri, a nine night and 10 day festival dedicated to the worship of the Hindu deity Durga.

In contrast, CPP's office is calm, a world away from the bustle and celebrations of the world on its doorstep.

TWM meets the company's chief sales officer Alok Prakash. CPP's main business is in manufacturing and marketing of high-quality pulp, writing and printing paper, paper board and tissue paper.

It offers a variety from top-of-the line premium products to the economy range. The company uses a variety of raw materials and pulpable raw materials including eucalyptus, poplar, vineer waste, bamboo, bagasse and recycled waste paper to manufacture its writing and printing paper, whereas tissue and board is produced from mix of hardwood, softwood and BCTMP.

Prakash says that CPP is the leading player in India's domestic tissue market:

"Our 100% virgin tissue paper is well accepted by all the leading converters in India," he says. "However, as a part of its long term strategy, we also export a sizable quantity to Middle East, SAARC, Africa, Europe and USA."

He adds that Century operates from the single largest production facility in the country, located at Lal Kuan in the state of Uttarakhand. The unit manufactures one of the most diverse portfolios of paper products. The manufacturing unit is certified to ISO 9001, ISO 14001, OHSAS 18001 and FSC. "We are the largest in India for commercial tissue and we have more than 50% in the virgin tissue segment. In packaging board, we are the second largest player in the country and one of the largest players in the writing and printing paper segment. Under one group we are producing every category of paper."

Prakash adds that the company is optimistic about the potential of the writing and printing sectors, which is growing at 9-10%. The packaging board sector is growing at 12% in India, while the company expects the tissue market to grow at 15-20% in the coming years.

With increasing awareness of hygiene and purchasing power, the growth of the tissue segment in India "is inevitable". "People in India are not used to tissue – socially and economically, it's not a big part of everyday life. Per capita

consumption here isn't even at 1kg. However, with increasing awareness on hygiene, growth of tissue is highly expected. Although per capita consumption seems less, if we consider the population and consumption at metros, tier-I and tier –II cities, the consumption will become sizable in the next five years."

Century has an option to add another machine once it starts to see some of this demand actualised. Currently it has one tissue machine supplied by Metso that produces 100tpy. Investing in converting lines is also a key business strategy for the group.

Prakash says: "In India, the AfH market is seeing an increase in consumption. Unlike European and American markets, the ratio of consumption at AfH against At-Home is around 60:40. However, with growing hypermarkets and modern trade, retail is also seeing a growth. There is lot of potential for tissue usage in the Indian market but affordability is still a challenge for common consumers. Private label tissue products are present, although it is less than many other countries. There's also the start of the emergence of demand for environmental-friendly tissue products, but for now this market isn't moving at the right pace."

The Indian tissue market is also seeing interest from the big multi-national companies like Kimberly-Clark & SCA, although he adds that their presence hasn't yet changed the Indian marketplace much.

For the immediate future, the company's focus is on its tissue division in India. Prakash adds: "We definitely believe there is a lot of potential for the tissue market in India. A growing economy as well as literacy and increase of awareness in hygiene are driving forces for increasing demand in Indian tissue market. Our prime focus is towards creating the need for tissue through increasing awareness and that's where we are putting our best efforts."



Above: Containers for export under loading in tissue warehouse

PIX Pulp indices 27.9.2016

NBSK pulp Europe

The PPPC-statistics were fairly weak over July, but the August performance was again strong in softwood, especially taking into account the summer season, but remained subdued in hardwood. Total paper grade market pulp shipments were up in August by 5.6%, y-o-y, and now up by 3.7% cumulatively. For market BSKP, those changes were +9.5% and 3.4%, respectively. Shipments of all grades to Western Europe were up in August by 1.9%, y-o-y, but still down by 0.6% over the first eight months.

Market BSKP shipments to Europe showed a healthy 4.2% increase for the month, y-o-y, but a small retreat of 0.5% over the first eight months. Producer stocks for all grades were flat in the standard calculation but down by one day, seasonally adjusted, against July 2016. The softwood pulp stocks behaved exactly as the total. Our PIX NBSK index eased down marginally, i.e. by 6 cents, or by 0.01%, and closed at 809.75 USD/ton. US dollar strengthened against the Euro by 0.4% (weekly average, wk 38). With the weakening of the Euro against the US dollar, the benchmark value in euro, converted from the dollar value index with the average exchange rate of last week (wk 38), moved back up from last week by 2.78 euros, or by 0.39%, and the PIX NBSK index value in euro-terms settled at 723.64 EUR/ton.

BHK pulp Europe

In BHKP, the shipments to the global and European markets were not very strong in July and remained lacklustre in August. PPPC-statistics showed global market BHKP shipments up by just 0.9% for the month of August, y-o-y, but still up by 3.8% cumulatively over January-August. Hardwood pulp shipments to Europe were again slightly down. In August, the retreat was 0.4%, y-o-y, and over the first eight months, shipments were down by 0.9%. Increasing downtime helped the hardwood pulp producer stocks which were flat without seasonal adjustment but, seasonally adjusted, came down by two days from end July 2016. Against August 2015, those stocks were still up, seasonally adjusted, by five days. Port stocks in Europe moved up in August by about 50 000 tons for all grades. This was a much smaller increase than in August 2015 and the total stock level of 1.25 million tons, while high, was below port stocks at the end of August 2015. Our PIX BHKP index value retreated again, this time by 51 cents, or by 0.08 %, and closed at 661.64 USD/ton. In week 38, the value of Euro depreciated by 0.4% against the US dollar (weekly average). When converting the USD value of the BHKP benchmark into the moderately weakened Euro, the PIX BHKP index value in Euro moved up by 1.86 euro, or by 0.32%, and closed at 591.28 EUR/ton.

Lars Halén

Senior manager,
FOEX Indexes

Timo Teräs

Managing director,
FOEX Indexes

Paper industry – (Sep. 13, 2016)

The first half year paper and paperboard production numbers have now been published by most of the key countries and regions. In graphic papers, the global supply (and demand) continue to sink. Over the first six months of 2016 production was down in CEPI-countries by 3.7%, in USA by 4.5%, in Canada by 3.8% in Japan by 1.3% and in South Korea by 2.1%. Brazil showed a growth of 1.0%. In tissue, production grew in all key countries, except for South Korea. E.g. in CEPI-countries, the growth was 2.5%, in the US 0.5% but in Japan as much as 5.0%.

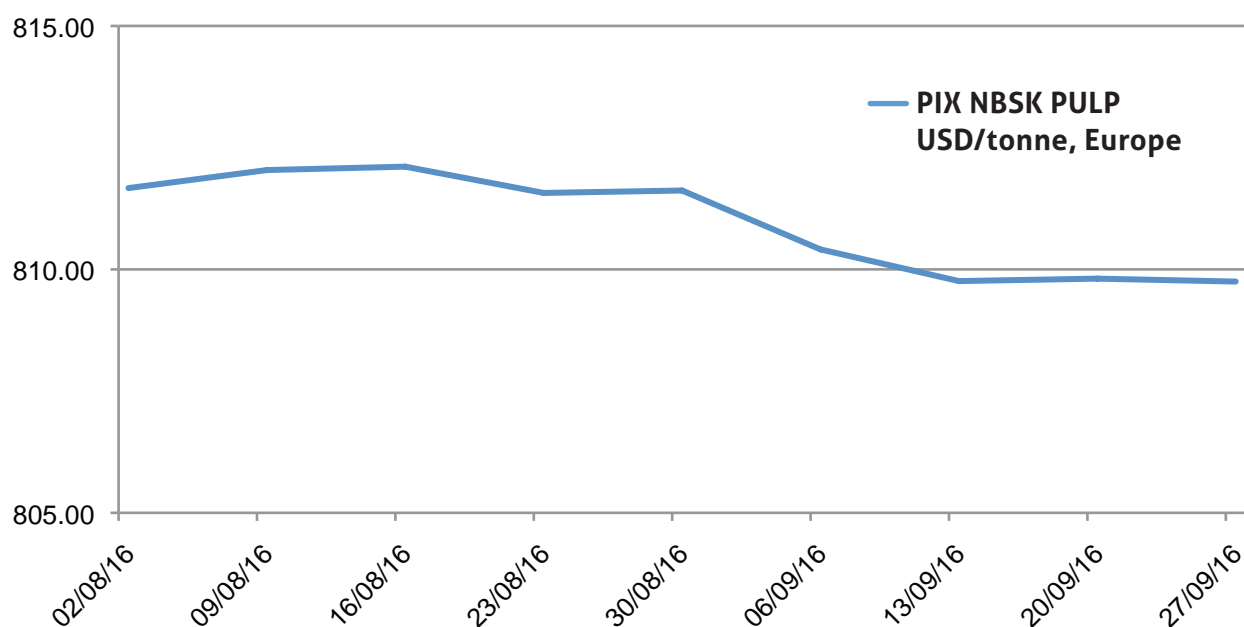
(Sep.27, 2016): The August data on the paper and board industry shipments looks better than what it really has been, due to two more shipping days in August 2016, compared to August 2015. Helped by this high number of working days, e.g. the North American printing and writing paper statistics (by PPPC) show a 2% rise in total shipments, y-o-y. The cumulative numbers are still down by 2.5% compared to the January-August volume shipped in 2015. Woodfree papers did this time clearly better than the wood-containing ones. In uncoated free sheet, the largest grade, the gain in August was 3.3% and also the cumulative number over the first eight months was marginally positive at 0.2%.

In Europe, no data on paper industry production or delivery volumes over August is at our disposal at the time of writing this report. Even if some pick-up has been reported now in September, most of the August data is likely to come out fairly weak, even seasonally adjusted. The order books were short in August and prices were under pressure in many grades. In containerboards, July numbers showed a 4.4% y-o-y decline in the European total, much worse than the cumulative retreat, which is still nearly 2.5%. Recycled paper based case-making material producers have been repeatedly disappointed through the summer in their efforts to raise prices. In North America, some of the packaging sector price increase attempts seem to have more wind under their wings.

Source: FOEX Indexes



PIX NBSK PULP USD/tonne, Europe



Subscription: For access to the latest PIX Pulp and Paper index values and commentary, please subscribe to the "PIX Pulp and Paper Service" via the following link www.foex.fi/subscribe/

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

Tissue papers are produced either from virgin fibre, recovered fibre and various mixes of both, depending on the end product. High quality hygiene tissue products like medical tissue products, facial tissues, table napkins or other such household and sanitary products are often made exclusively or almost exclusively from virgin fibre pulp, whereas the share of recovered fibre typically increases in tissue products for a variety of end uses outside personal hygiene, such as kitchen towels or towels for garages or other such industrial

production facilities etc. Providing PIX pulp price indices gives the paper producer and buyer insight in the price trends with a weekly frequency. PIX indices are used as market reference prices e.g.

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

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

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

Outlook for World Tissue Business

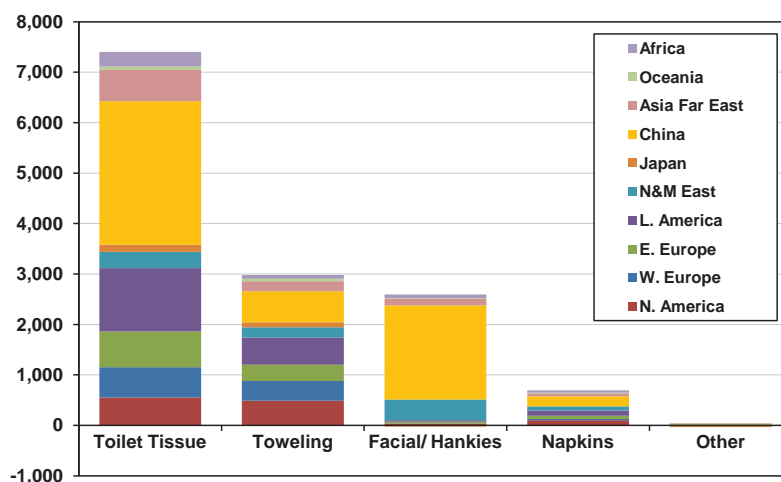
www.risi.com/owtb

The most comprehensive, unparalleled, compact data source and forecast for the global tissue market!

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

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

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



This study details:

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

Tissue 'the unsung hero of our daily lives'

Dave Ripper is one of many to discover how prominent tissue is only when asked, as here, to recall their encounters with the vital aid to living. He lives in the south of England and is especially pleased to have a wet wipe to beat the 'hot desking' hygiene problem.

"I've not given this topic much thought before now. But thinking back over the past couple of days these types of products do pop up all the time. Loo roll, paper napkins, antiseptic wipes and kitchen roll all are the unsung heroes of any daily routine.

"However, my general consumption of paper napkins isn't entirely through choice – I'll explain. I work in an office in London, and like most workers in the area for lunch tend to run around the corner to the nearest snack shack, Pret-a-Manger, fast food outlet, etc, and buy my food and take it back to my desk to eat.

"When you get back to the office to tuck in amongst the bag of food there is a handful of several napkins put there by the cafe, when perhaps only one would suffice. I generally feel like this is a waste and bad for the environment but don't necessarily have much of an option to say 'only one napkin will do' before they present me with my food and move on to the next customer.

"For a while I was keeping any extras to one side for emergencies (and to appease my green, environmental mindedness), but had to give up when we moved to a hot desking environment.

"Hot desking leads to new concerns, and this is where the wet wipes come in useful. As you aren't guaranteed the same desk from day-to-day, having to change desks also means you have to share space with your colleagues, some of whom may not have the highest of hygiene standards! It's always good in the morning to wipe down the desk and phone with a wet wipe in order to get the peace-of-mind that your workspace for the day has been cleansed.

"I'm hardly picky about what I buy when it comes to buying tissue products – in my eyes a 2-ply tissue in a store brand's name is as good as a 2-ply tissue in a market leader's name. And the addition of puppies on the toilet paper isn't a game changer! That said, I can't say my girlfriend has the same opinion though – several times I've been told I've made a bad choice in toilet roll when I've been left to do the weekly supermarket shop myself. With other items, the end product is a less contentious choice and normally decided by price – but toilet roll seems to go against this trend.



"I'm aware of being environmentally friendly when I'm given paper napkins I didn't want, but when it comes to tissue products that I purchase and will use I won't scan the packaging to see if they come from either recycled paper or other sustainable sources. Maybe I'm naive that in the 21st Century I'd expect most tissue products on the shelves of our major supermarkets to come from either sustainable sources or recycled paper and I wouldn't need to check. There is also the off-putting perceptions of recycled toilet roll – images of those recycled green paper towels used in school classroom that it's unabsorbing, stiff and also uncomfortably rough. Who would want to put their bodies through that punishment? It's not a threshold I've necessarily been brave enough to cross! Sometimes comfort wins over conscience.

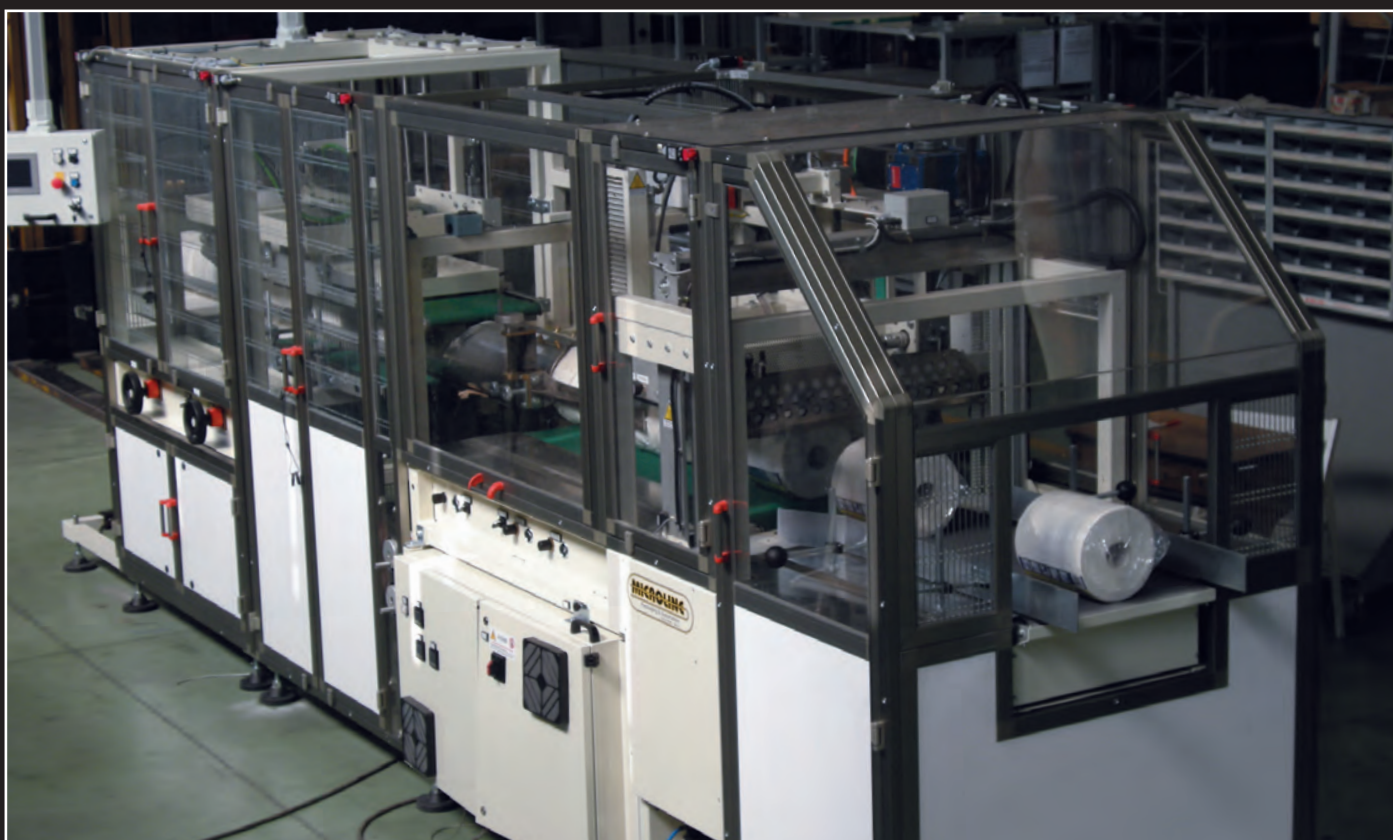
"Tissue products in the UK are very common-place and so much business-as-usual you could argue they are taken for granted. As for cultural usage, there is an interesting undertone of this at my workplace that most colleagues perhaps haven't noticed. I work in an office for a large global company and we have around 10 floors of the same layout. The toilets are outside in the atrium where it can get quite chilly in the winter months and their toilet paper is thin, single sheets from a dispenser. There is, however, only one floor which breaks the mould – luckily I get to sit on this floor!

"On this unique floor sit our Global Executives [CEOs, CFOs, CCOs etc]; not only are this floor's toilets inside in the heated section of the building (ie. not in the atrium) but their overall quality is better. These toilets are treated to proper 3-ply toilet paper, the finest hand soaps and the softest disposable hand towels. This is a definitely conscience decision and perhaps identifies that in the senior leadership and associated lifestyles you come to expect luxury products, even the most luxurious tissue products?

"When I've travelled, Cuba has been an interesting experience; everyday items there are clearly limited and in less touristy areas people would come begging to you for soap, biro and also toilet paper. What was available in Cuba can only be described as 'doing the job,' but nothing luxury about it. A trip to Dubai also provided an eye opening experience when I visited a toilet cubicle to instantly query where the toilet paper was, not understanding the role of the bidet shower out there. Safe to say I wasn't that brave."

Market trends inspire advanced delivery for diverse customer needs

Microline's Giulio Bignami talks about the company's latest technology developments plus a new line installation at Dubai-based Metropolic Paper Industries. A TWM report.



Above: Microline's automatic wrapper for industrial paper rolls

For many years, Microline has been responding to customer demands and focussing on different aspects for packaging tissue products, building automatic machinery for end-of-line packaging.

Its AfH roll baggers and packaging machines, vertical and horizontal case packers for rolls, tissues, holders, napkins and interfolded tissue, connection, sorting and orientation systems and palletisers mean the company addresses

a wide variety of situations in producing tissue products.

THE NEW MICROLINE BRANDED LINE

In May, Microline delivered its most significant end-of-line packaging line in the Middle East, to one of the region's biggest groups in the tissue sector at international and Middle Eastern level.

The following automatic machines are:



Giulio Bignami,
Microline chairman

AL80

After the success of the Flow Wrap 1000, "the multi-pack wrapper that moved the goal-posts", Microline launched the AL80, a third-generation wrapper. The AL80 represents innovation reliability and is the only wrapper able to handle rolls in single, double, or triple collations. Roll packs can be customised with (glueless) label insertion or printed film. With high productivity combined with increased flexibility and reduced consumption, this wrapper was launched specifically in response to market demand. The AL80 output rate is up to 210 rolls per minute for the 1x3 format. Film consumption is 30% lower compared with other wrappers available

The AL80 represents innovation reliability and is the only wrapper able to handle rolls in single, double, or triple collations. Roll packs can be customised with (glueless) label insertion or printed film.



Above: Microline's automatic bundler model FW1000

FLOW WRAP 1000

The first machine completely controlled by a servo-motor system in this market segment. Any operator can easily use the touch-screen panel for both size change-overs and all the general machine functions. FLOW WRAP 1000 is a bagger that can pack up to 20 bags per minute, without a shrinking tunnel, in all and every product arrangement of the AFH market. By introducing new concepts, packaging has benefited in terms of both consumption of materials and energy saving.

SMART PRODUCT SORTING SYSTEMS

Increasingly high performance levels and new market trends in up-stream machinery have given life to the development of new devices that can handle, channel and delicately convey

rolls on demand to the machinery downstream. The smart handling of the devices ensures that as well as balancing the channels, with relevant exchange signals, the device can communicate with the process machinery upstream.

CONNECTION CONVEYOR

By handling the conveyors in ad hoc recipes for individual formats, there are benefits on various fronts: special roll detection systems automatically restart the conveyors, energy consumptions are rationalised and, at the same time, wear on components is reduced to a minimum.

DIRECTING AND PRODUCT STACKING DEVICES

Systems created specifically to unite performance and delicate handling of tissue products: size changeover

solutions where downtime is reduced to a minimum, without the aid of tools or having to replace mechanical parts. Therefore, rather than components and particular secondary and tertiary packing stages, Microline's specialism is integrating the most diverse customer needs in one automatic customisable solution.

1. Sensitive products to be handled according to their features, weight and the dimensions of the primary packaging;
2. Market trend towards a preference for compact secondary packaging, with optimised dimensions, that facilitates palletising operations, allocation to shelves, display and disposal at the end of the secondary packaging's lifetime;
3. Need for flexible automatic systems in the size change-over and unit composition ratio for variable delivery and transport and at the same time iso-modular.

Based on the packaging requirements, Microline can propose the most suitable machine or line, customisable, flexible and versatile, optimising the available spaces, consumption and naturally production.

All the machines are simple for the operator to use and require minimal maintenance. Collaboration with other



Above: Microline's automatic packaging lines for industrial rolls

Rather than components and particular secondary and tertiary packing stages, Microline's specialism is integrating the most diverse customer needs in one automatic customisable solution.

manufacturers in the sector also creates synergy allowing the lines to be integrated and completed and offering customers a meticulous and satisfactory service.

The final aim of all Microline projects is to avoid wasting energy and materials. Film baggers and wrappers are designed to completely use the strips of packaging material hence providing benefits in terms of management costs and protecting the environment.

The challenge for Microline is binding: the advantages for customers are a reduction in packaging materials, with benefits in terms of the environment and material costs, but also savings on product cycles (constantly faster) and simplification of palletising stages (the palletiser could even possibly be removed). Company mission: to make flexible automatic machines suitable for all "seasons" and requirements.

This article was written for TWM by Giulio Bignami, Microline chairman.

CASE STUDY: Metropolic Paper Industries talks to TWM about its latest investment

In November, Dubai-based Metropolic Paper Industries will start up its new packaging line for AfH rolls. The company has been in the paper industry since 1995 and has recently needed to expand its packaging capabilities due to an increase in customer demand.

General manager Amer Omarzay told TWM that the company is proud to be one of the country's leading tissue converting companies. Products include facial tissue, bathroom tissue, kitchen towel, napkins, M-Tork, C – Fold and hand towel in all sizes. Sectors include personal and daily use in homes to professional use in workplaces, restaurants to hospitals.

It processes 100% virgin raw material to produce more durable, absorbent and cost effective products. Its clients include all the top chains of supermarkets, leading exporters, wholesalers, retailers, hotels, hospitals, clinics, catering and cleaning companies. It is also a supplier of tissue papers tailored for its customers' own brands. Omarzay added: "Through our knowledge of international markets, trends and local consumer requirements, we can respond rapidly and flexibly to offer our customers individual product concepts, consultancy, manufacturing and services."

The company's investment was essential for it to remain a key player in the market. Metropolic also has plans to cater to the Gulf Cooperation Council market, which was impossible to cater for with the current capacity. The company said it was fully aware the market is there; however, it needed the right machinery with fully automated technology to expand and reduce its work force but increase its production.

Maximyz[®] enzymatic technology from Buckman.

Conventional tissue fiber refining takes a lot of energy. And that takes money, time and a toll on both the fiber and the environment. But mills that have switched to Maximyz enzymatic technology are refining and drying with less energy and less cost. They're able to increase strength and softness, use less expensive fiber, speed up production, and reduce their impact on the environment. Your mill can too.

Go enzymatic. Contact your Buckman representative and start getting the most out of your fiber with Maximyz.

Buckman



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Raptor SL integrates features from top-of-the-range packers

Chris Bladek, marketing specialist, Edson Packaging Machinery, discusses the latest case packing design innovations in the Raptor SL case packer. A TWM report.



Photos: The Raptor SL in action

The tissue packaging industry is continually evolving and demanding reliable, easy to use case packing equipment to maximize overall equipment effectiveness (OEE). In response to customer requirements for end-of-line packaging equipment, Edson Packaging has made several technical and design innovations to the newest case packer, the Raptor SL that is suitable for small and medium-sized companies using packaging tissue products. Features normally found in top-of-the-line case packers are integrated with the Raptor SL. Four main areas of interest include; case stability, minimal adjustments, simple controls and remote solutions.

Reduce downtime through maximum case control

The Raptor SL horizontal side-load case packer uses a unique to industry servo

driven pick and place tool that controls the case throughout the entire process until it is ready for discharge. Minimal movements are made throughout the process to significantly reduce jams and heighten reliability of the machine. The adjustable pick and place tool uses suction cups to gently lift and move knock down corrugate from a full stack to the case forming station. Upon arrival at the forming station, the bottom of the case is gripped by suction cups and the case is formed by the pick and place

For case depth dimensional changes, the case dispenser, tuckers and discharge compression belts all move together driven by one screw adjust axis. Changes to case height are accomplished automatically through the PLC by selecting the appropriate recipe for the SKU using the HMI.



Chris Bladek



Marketing specialist,
Edson Packaging Machinery

tool. Since all forming forces are applied to the top and bottom panels, each case is erected tear-free and perfectly square, regardless of corrugate quality. After the case flaps are tucked, the case control is transferred from the pick and place tool to top flap stabilizer cups. These cups maintain case control throughout case loading and minor flap tucking to ensure a high degree of case control.

Simple changeovers can be accomplished in 15 minutes

In the design of the Raptor SL, Edson focused on providing customers quick, simple tool less changeovers between SKU's by using principles from its flagship 3,600 case packer. The machine's open design provides operators with easy reach, ergonomic access to all adjustment points. The number of adjustment points located on the machine was minimised to allow

the customer to carry a low inventory of change parts. Several format adjustments have been combined to reduce the number of changeover points.

For case depth dimensional changes, the case dispenser, tuckers and discharge compression belts all move together driven by one screw adjust axis. Changes to case height are accomplished automatically through the PLC by selecting the appropriate recipe for the SKU using the HMI. Finally, the knock-down-flat corrugate case magazine wall must be adjusted to accommodate the length of the case using one screw adjust axis.

Save hundreds of technician hours with PC-based controls

Edson partnered with automated controls company Beckhoff Automation for the Raptor SL's control architecture – an architecture that is significantly less expensive than a comparable PLC architecture, but with better performance. The PC based system offers fully integrated safety motion control and digital I/O for the utmost in diagnostic capabilities and fast response.

Training videos, operator manuals and spreadsheets can all be accessed from Beckhoff's CP29xx HMI touchscreen. The EtherCAT-enabled Raptor SL uses a variety of EtherCAT distributed I/O modules, including integrated TwinSAFE terminals for safety functions. These are



available in both cabinet-mounted IP20 format and machine-mountable EtherCAT Box in IP67 protection, dramatically reducing machine hardwiring costs. The system eliminates the need to send an electrical specialist on-site to customer facilities to reconnect the main panel to the machine, reducing 100 or more work hours for every machine installation. Wiring labour has been reduced by at least 25% as safety devices are plugged directly into Beckhoff's EtherCAT Terminal eliminating junction boxes.

Remote monitoring and service through cloud connectivity

The Raptor SL is equipped with ProTech, Pro Mach's new secure remote monitoring service for OEE reporting. Operators can access vital machine functions and information from a touchscreen interface, including recipes for various SKUs, alarm settings, production data, and maintenance. ProTech also offers remote tech support and service – a capability that can help fix issues or modify settings in a matter of minutes or hours, not days as may be case when an OEM technician must be dispatched to the plant. Customised dashboards can be created to display real-time production data which can be accessed from PC's, mobile phones, and tablets any time, from anywhere in the world. This is accomplished with the Ethernet enabled ProTech communications device.

ProTech hardware can be retroactively embedded in any machine, allowing small and medium sized packaging operations to have line-wide OEE data, without diverting internal resources to create this analysis and reporting system.

This article was written for TWM by Chris Bladec, marketing specialist, Edson Packaging Machinery.



By Tissue World magazine editor Helen Morris

Quality product initiatives, greater technology efficiency, energy and labour costs – keys to the new markets

TWM asked industry experts around the world to explain how they see emerging technologies, cultural trends, financial markets, political initiatives and energy costs affecting their short and long terms prospects.



Helen Morris

Editor,
Tissue World magazine

**Pirkko Petäjä**

principal at Pöyry Management
Consulting, Finland

**Devrim Deniz,**

director, ICM Makina, Turkey

**Bud Chase**

vice president – tissue, Enzymatic
Deinking Technologies, America

**David Mackinson**

senior research analyst,
Euromonitor International, Chile

**Hussam Fansa**

chief executive of Fansa Kagit, Turkey

**Sahraoui Abdelhalim**

factories manager at Gulf Paper Industries
Factory Co, Saudi Arabia

**Ian Padley**

tissue applications manager at BTG,
United Kingdom

By Tissue World magazine editor **Helen Morris**

"The main trends in 2017/2018 I expect to see include the increase in private label and AfH products. Customers are always open to new products and the tissue industry is open to new ideas."

Devrim Deniz

Devrim Deniz, director, ICM Makina, Turkey

"Increased tissue supply and lower costs are pushing tissue companies to be more efficient. Raw material prices and energy costs are very much the same for all markets. The only difference between the markets is the labour cost. Everybody is looking for technology or equipment to have better efficiency in their production. Products differentiation is the key to cope with the market.

"The main trends in 2017/2018 I expect to see include the increase in private label and AfH products. Customers are always open to new products and the tissue industry is open to new ideas.

"In terms of the shifting economic conditions, we are seeing the market getting tighter everywhere. We're also seeing a lot of demand for new technologies from the Far East and also Latin America.

"Efficiency is key for the near future in the tissue market. We are investing into new ideas to produce different products in the most efficient way."

Ian Padley, tissue applications manager at BTG, United Kingdom

"Many events such as M&A activity, rising pulp costs, mill consolidation and overcapacity have had an impact on companies such as BTG. There has been consolidation amongst major groups in Europe which has led to some mill closures, thus directly impacting business.

"On the other hand, this has been more than balanced by newer

manufacturing assets coming on line, which present new opportunities. In some of these cases we see that overcapacity issues have been addressed, but also we note that smaller, older and less efficient assets have closed, to be replaced by more modern ones, not necessarily in the same locale. Such is the globalisation of tissue and parent roll sales.

"We have seen a lot of investment in areas as diverse as eastern Europe and Mexico as well as Asian nations outside China. This has also driven strong competition between producers, which are looking for quality enhancement, efficiency and productivity gains in ensuring asset safety.

"The march of private label in the developed western markets seems set to continue and we note that much of the new investment in North America and Europe is from producers with private label in their portfolio. Moreover, as well as production efficiency concerns, always the driver for private label, these producers are more and more frequently demanding brand-like hand feel and bulk qualities.

"The trend is not universal however even in Europe, with toipa brand competition fierce in the Nordic area for example. In either case, we see a welcome trend in developing technical tissue making solutions founded on good papermaking science.



"The continuing investment growth to supply local and evolving demand in Eastern Europe we already noted, but the Asian demand growth also seems to be picking up, as does the pace of investment there."

Ian Padley

"The continuing investment growth to supply local and evolving demand in Eastern Europe we already noted, but the Asian demand growth also seems to be picking up, as does the pace of investment there.

"We do see increasing globalisation in the movement of tissue. The slowing of growth in China doesn't seem to have blunted their enthusiasm for installing new assets, in fact what we see is Chinese producers of declining grades diversifying into tissue. However, as they are finding out, tissue making is far from straightforward and thus one issue holding back tissue in China is a lack of trained engineers to supervise the plant. Being UK based I have to note that the UK is still a net importer of tissue and has had some asset closure in recent years, so one can speculate that some new tissue investment into the UK might be a logical outcome of Brexit.

"As in previous years, tissue growth accurately tracks GDP growth, urbanisation and improved infrastructure. Therefore, we see new demand in China, actually away from the booming coastal cities as well now, in SE Asia generally, eastern Europe, especially in the more recent EU entry countries (Bulgaria, Romania) and a massive demand in Turkey and also in Latin America.

"The two biggest challenges are structural and technical. The structural challenge is the supply of trained engineers/technical staff both for producers and partners. This is acute in China as a growing market issue, as mentioned, but also in the developed markets for different reasons.

"We have seen a major RIF in many big producers, especially in North America, which has led inevitably to early retirement of senior technical staff, coupled with a de-emphasis on new engineer recruitment and training. This

By Tissue World magazine editor **Helen Morris**

goes hand in hand with a reduction in the places offered by specialist vocational, graduate and post-graduate training in paper engineering, few if any of which offer specialist tissue training in any case. Thus we have a skill shortage, and seemingly a difficulty in promoting papermaking in general as a worthwhile career.

"The technical challenge is that of pulp supply against a background of increasing quality demands. It is notable that many big pulp suppliers are increasingly focused on the pulp qualities needed for tissue, but it is also a fact for bleached softwood pulps, certain very desirable characteristics can only come from pulp grown in restricted regions, hence scarcity of supply.

"In an effort to improve hand feel, many producers therefore are increasing hardwood content, but this brings its own challenges. As an industry partner, furnish related issues are more a less a daily fact of life now.

"The opportunities are rife both regionally (Central Americas, Turkey, SE Asia, China, East Europe) and technically (high quality private label and differentiated branded offerings)."

Hussam Fansa, chief executive of Fansa Kagit, Turkey

"The events that have taken place during the past year have caused us to lose some international markets and created more competition in the local market. This has meant that all paper mills have had to lower their prices and find other market solutions.

"During 2017 and 2018, I believe paper mills and converters will try to force more of AfH products into the market.

"Around the world, we are also facing challenges from economic changes and the currency rate fluctuations around the world have created an unstable market for the whole world. There has been a complete change in the geographic supply market.

"In terms of geographical areas that are showing new demand potential, there's more demand in the Gulf region for tissue products than ever before. There should - soon - be some force increases



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Hussam Fansa

in the supply of tissue products in some countries that have low consumption ratio per capita.

"The main challenges and opportunities are that the jumbo rolls market will not recover any time soon. Paper mills will tend to produce more alternative products and will as much as possible take over the converting business from the converters."

Bud Chase, vice president - tissue, Enzymatic Deinking Technologies, America

"Increasing pulp costs of roughly 5% per year are expected through to 2019 and is creating unique pressure on the entire tissue industry. Because pulp is so much of the cost of any tissue or towel product, At-Home or AfH, any increased cost must be passed along to the consumer or its impact must be minimised through process optimisation.

"With the current excess tissue capacity situation, passing this cost along to the consumer will be difficult. We see a significant increase in the interest level in process optimisation efforts, including enzyme use, to assist with the effort to reduce use of expensive pulps. These factors are

always present to varying degrees in our markets and will always be influential.

"For example, several new machines have started up in Turkey and are creating a significant export of parent rolls from Turkey to Europe and the Middle East. Perhaps surprisingly, Great Britain is a recipient of some of this production.

"This excess capacity is made up of high quality, primarily virgin, mid-range products that can compete with middle to high-end production. This will continue to put price pressure into the mid to premium end of the European markets and drive expansion of these products in the Middle East markets.

"As Turkey continues to expand its economy some of this production will get pulled back into Turkey but it will be years before this rebalances. A scenario of additional capacity coming on line is also playing out in the North American market as companies like ST Tissue, Von Drehle and Sofidel add capacity in both At-Home and AfH products.

"First Quality continues to put pressure on the premium end of both the tissue and towel markets through private label sales. This highly competitive environment is forcing all manufacturers to focus on cost management and to use technologies that can reduce cost.



"Private label production continues to see quality improvements and likely will continue to grow in mid to upper level tissue and towel market segments through increased customer demand for similar quality products at a lower price."


Bud Chase

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By Tissue World magazine editor **Helen Morris**

"Private label production continues to see quality improvements and likely will continue to grow in mid to upper level tissue and towel market segments through increased customer demand for similar quality products at a lower price. This may fuel the jumbo roll market whether export or not.

"The Middle East and African markets are both expanding now and will likely experience growing demand in the next two years and an increasing growth rate after that. The next two years will likely be the infancy of the development of specialised products, perhaps branded, to these markets.

"The main quality trend I see is an effort to improve the hand feel of nearly all tissue and towel products worldwide. This trend used to be routine in the bath tissue segment but is now also present in towel. It is also now affecting producers' desire for recycled products. In virgin production, this is causing companies to use higher levels of hardwood, usually eucalyptus, to improve hand feel.

"This trend is heavily present in the North American markets but is beginning to be felt in the European markets also. Producers are rethinking the role of refining versus other alternatives to provide what refining can without the negatives of refining. We see more mills interested in energy reduction and sustainability goals related to water or energy than ever before. The continued influence of the big box stores in the North American market remains omnipresent. To remain a main supplier to this channel continues to demand an aggressive price point and also consistently high quality.

"This challenge is similar to a normal overcapacity challenge except that it is related directly to the capacity through this channel; similar solutions must be pursued involving reducing bottom line cost while maintaining quality.

"The main economic drivers are pulp prices and price pressure from over supply. If pulp prices continue to rise in this over supply environment, this will likely put tremendous cost reduction pressure on manufacturers to find ways to use lower cost pulps without sacrificing quality as well as cost reductions in energy use and other factors.

"This will lead the industry to become more flexible with pulp recipes in order to be able to take advantage of fluctuations in pulp prices within given markets. "The additional eucalyptus capacity that has come on line and will continue to come on line may provide a lower cost pulp alternative which may also assist with the hand feel trends that appear to be present in the higher end products.

"The Middle East and Africa in particular are both expanding marketplaces. Once the political unrest decreases in the Middle East I expect that market will expand even more rapidly. The North Africa market is poised to expand next. Both markets will likely initially adopt AfH products or their At-Home equivalent for use in home to minimise spend but low cost at home products will do well there quickly. The main challenge for the industry today is to combat rising pulp costs without sacrificing quality.

"Recycled tissue quality is a renewed thrust among several companies whose strategy is to have a preferred product and great utilisation of secondary fibre in an overcapacity industry with rising virgin fibre costs. Pulp prices will surely vary as markets oscillate through various cycles. Providing a means for tissue and towel manufacturers to adjust their virgin furnish recipes according to the pulp markets without sacrificing quality can be a pulp purchasing advantage.

"Continuous efforts to make better products using less water and energy while improving specific quality characteristics like dust reductions, improving softness or absorbency will always be important. Improving the quality of recycled fibre will be an increasingly important focal point in the face of rising virgin pulp costs."



David Mackinson, senior research analyst, Euromonitor International, Chile

"South America is stuck in the middle of an economic deceleration. Recession in Argentina, Brazil, and Venezuela has moved the focus from growth in value terms to repositioning brands to capture down-trading.

In Venezuela, the market continues to be impacted by government price controls and an unattractive business environment. On 9 July 2016, Kimberly-Clark Corp. announced it was suspending operations in Venezuela, where it operates within retail tissue (toilet paper, kitchen towels, etc) with its brands Kleenex and Scott as well as within retail hygiene (feminine sanitary protection and diapers) with its brands Huggies and Kotex.

"Product pricing within tissue and hygiene is generally controlled by the government due to the rampant three-digit inflation in the country. K-C's decision is significant in that it is based on the company not seeing an end in sight to the deterioration within the country – something it had held out for over the last 10 years.

"In countries such as Ecuador, Chile, Colombia, and Bolivia, although GDP growth is still positive, the rates have been cut in half (and well below the +5% that they are used to). Consumers are reacting with caution. Although greater rates of access to credit within the modern retail channel encourages consumption, consumer are increasingly on the look-out for more competitive pricing.

"These dual trends, economic malaise as well as a migration to the modern retail channels (supermarkets/hypermarkets) have given private label brands their best opportunity yet in Latin America.

"In countries such as Ecuador, Chile, Colombia, and Bolivia, although GDP growth is still positive, the rates have been cut in half (and well below the +5% that they are used to). Consumers are reacting with caution."

David Mackinson

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"I believe that a substantial progressive growth from the second half of the year in 2017, boosted by the European and North Africa market, will occur."

Sahraoui Abdelhalim

Private label as a percentage of total tissue purchases is less than 10% in the region, amongst the lowest in the world (it is over 50% in Europe).

"Additionally, a collusion scandal in Chile in late 2015 and early 2016 prompted an outright boycott of the name brands. One of these companies reacted by slashing its own prices in order to stem the bleeding but private labels saw their market share increase several points in 2016.

"There will continue to be a real opportunity for private label brands, with a comparable quality, a more economic price, and a cleaner image to take even more market share from the name brands in 2017.

"Regarding the competitive environment, in Chile the arrival of Papelera Concepción (FPC) made negligible waves in 2016.

"CMPC continues to promote the ATMOS/structured paper used in its kitchen towels (Nova Evolution). The value-added products are marketed as being more resistant and more absorbent. We can expect to see 2-ply toilet paper to continue to grow throughout the region. The product is competitively priced compared to 1-ply and so the migration has been attractive to consumers. There is also a manufacturer driven trend towards bigger rolls, 40m instead of 20. The downtrading mentioned above has been in terms of brands and pricing.

"Second-tier cities in countries such as Peru and Colombia will continue to support growth in volume terms.

"Challenges for the next year or so include fixing prices in Venezuela, high inflation in Argentina, unemployment in Brazil; economic malaise in the rest of the region (consumers won't want to splurge on tissue). The main opportunity is within the private label sector."

Sahraoui Abdelhalim, factories manager at Gulf Paper Industries Factory Co, Saudi Arabia

"During the last two years we have observed important changes in the markets of the tissue paper industries. This has largely been represented in the restriction of the converted market in the gulf area due to the political events that have created overcapacity and saturation in the local market.

"I believe that a substantial progressive growth from the second half of the year in 2017, boosted by the European and North Africa market, will occur.

"Due to our limited production capacity we did not face a significant impact during this last year, which leads us to imagine that this is the right time to invest in a second tissue paper machine."

Pirkko Petäjä, principal at Pöyry Management Consulting, Finland

"Shifting economic conditions are impacting the tissue business; the Iberian Peninsula is recovering from the double dip recession and is only reaching the previous volume levels. Local industry in Greece has significantly suffered of the hard times and Greece relies currently very much on tissue imports. The Brexit impact has reduced prices

in the UK and make exports to the UK less interesting.

"The Russian and Ukrainian crisis has seriously impacted the whole Eastern European tissue industry. Local markets in Ukraine, exports to Russia and local production have all been impacted. Tissue imports to Ukraine show the same declining trend. The market in Ukraine fell some -20 % in 2015. Russian market growth has been similarly impacted. Even if the value of the Ruble makes exporting the current overcapacity easier, the problem is that many of the surrounding economies have collapsed.

"There are also positive impacts to be expected; in Iran, the economic prospects are good after the sanctions and this is expected to reflect to the tissue industry.

Clearly the economic recovery is shown in the tissue markets in many regions and even in Ukraine there are signs that the decline is levelling out.

"Economic conditions have always impacted the tissue business and the main challenges the industry is facing often originate from these impacts. The best opportunity to tackle the economic fluctuation is consolidation and growth. Only the companies that are strong enough can have continuously high margins over the business cycles.

"Consolidation and larger footprint make it possible for the players to service the retailers more efficiently. Large companies can improve their facilities, machinery, innovation, sales and marketing, even source raw materials at better prices.

"Consolidation, especially in the regions where the industry is very fragmented is a way to tackle the economic variations."



"Shifting economic conditions are impacting the tissue business; the Iberian Peninsula is recovering from the double dip recession; local industry in Greece has significantly suffered of the hard times and relies very much on tissue imports."

Pirkko Petäjä

Vedansh Gupta, solutions provider at Artica International, United Arab Emirates

"Over the past year, the bigger mills have continued to acquire mills and set up new capacity. The price of tissue is on a free fall and in the Middle East we have a severe overcapacity issue, giving rise to lower margins and more competitiveness.

"Over the past two years the market has switched from a price-sensitive market to a more cost-sensitive market, and prices of tissue grades have tanked by over USD 200 PMT over the course of two years. The fall hasn't stopped.

"As suppliers of jumbo reels, we see our customers concentrating once again on consumer products. This is a strategic move to be away from the AfH market, which is once again highly competitive.

"We are seeing more and more converters and manufacturers wanting to concentrate more on developing their own brands.

"Shifting economic conditions have sent the global currency on a goose chase, and with the events at Hanjin along with an increase in Brent Crude prices, we forecast higher freight rates.

"The same issues will keep the tissue market unstable for a near term. However, in the long term the industry should be able to absorb this shock.

"As tissue is so freight sensitive, any fluctuation in currency and/or freight does have a massive negative impact on the viability of moving tissue in finished or jumbo rolls.

"Generally, we are seeing more demand originating from Africa, and hope the same revives more as the commodity prices have reached rock bottom, and in the mid-term the prices should rise. This will give rise to a revival in the African economy and thereby create more demand.

"As tissue is mainly a luxury item in this part of the world, the rise in demand will only showcase a rise in disposable income.

"We are facing increased competition in the region, with most Middle Eastern mills sitting on massive stock and in a position to liquidate. We are tackling the same by getting into more value-added services as tissue chemicals, core boards, dispensers, and everything else our customers generally use.

"On the paper side we are promoting structured paper as we believe this will be the next evolution in the tissue industry after the Crescent Former."

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İpek Kağıt invests in regional power

A long-time pioneer and leader of Turkey's tissue paper sector, İpek Kağıt has opened two new plants in Turkey and Kazakhstan that will advance its goal of regional leadership. Sertaç Nişli, general manager of İpek Kağıt, highlights its recent investment.

İpek Kağıt was established by the Eczacıbaşı Group in 1969 to manufacture bathroom tissue and promote the use of this product in Turkey, where tissue paper, at that time, was a new and unobtainable product for most people. When we started manufacturing tissue paper a year later at our paper mill in Yalova, the first facility of its kind in Turkey, the tissue paper market was virtually non-existent.

Today, we dominate Turkey's bathroom and facial tissue, napkin, handkerchief, and kitchen towel segments as well as a new line of bladder protection pads—with the five most popular brands: Selpak, Solo, Silen and Servis for retail customers and Selpak Professional for away-from-home use. Selpak, our flagship brand and the generic name for tissue paper products in Turkey, is the best known and best loved tissue paper brand, with a reputation for innovative products and a true sense of caring about customers' well-being.

A pioneer of Turkey's tissue paper industry, İpek Kağıt has maintained its leadership over the years by focusing on quality, innovation and the development of a range of brands that cater to diverse customer segments and expectations. İpek Kağıt had steadily advanced towards its goal of becoming a regional power since becoming a fully owned Eczacıbaşı Group company in 2012.

During this period, we achieved a rapid acceleration in growth, maintaining our leadership in Turkey while increasing the number of international markets to more than 60 countries across five continents. Over the next five years, we aim to sustain this momentum by growing our international sales four-fold and doubling our total revenue.

To this end, İpek Kağıt has opened two new plants in Turkey and Kazakhstan that will advance its goal of being a regional powerhouse. The cumulative value of the investment is over EUR 90 million.

65% increase in capacity with the Manisa investment

In addition to our plant in Yalova, which received an "Environment-Friendly Plant" award from the Turkish Healthy Cities Association, we have manufacturing operations in Manisa, Turkey, serving both local and international customers. İpek Kağıt's new investment in Manisa, which completed in 20 months, embodies the newest and most advanced technology in the tissue paper industry.

The most important component of the investment is a new paper machine that is 5.6 meters wide and produces 2,200 meters of paper per minute. The machine has increased İpek Kağıt's capacity by 65% from 110,000 tonnes to 180,000 tonnes per year.

İpek Kağıt's second investment in Manisa – Turkey's first and only bladder pad production plant – will support the company's powerful entry in the medical hygiene category with a wide array of medical products of international standard for adults with incontinence. İpek Kağıt plans to market these products internationally as well as in Turkey.

Astana plant will reinforce İpek Kağıt's regional power

Our former plant in Almaty, Kazakhstan, was constructed in 2006 to serve the growing markets of Central Asia and the Caucasus. Here, drawing on our marketing expertise in Turkey, we have succeeded in leveraging the competitive advantage of our position as Kazakhstan's first large-scale tissue paper manufacturer to make Selpak the most popular premium tissue paper brand. İpek Kağıt's new investment in Kazakhstan aims to advance its goal of leadership in Central Asia. Compared to its former plant in Almaty, the new plant in Astana is bigger, better situated and equipped with newer, more efficient technology. Aside from cutting costs,

E

Sertaç Nişli



General manager,
İpek Kağıt

the new plant will produce a broader range of products that facilitate the company's expansion in Central Asia. Over the next decade, İpek Kağıt aims to expand the leadership of its flagship Selpak brand in the premium segment of Kazakhstan, Azerbaijan and Georgia's tissue paper markets to other countries in the region.

These new investments have reinforced the quality, technology and innovative power of İpek Kağıt and brought us closer to our goal of becoming a regional power. As we extend this achievement to new markets, in line with our vision of being a powerful regional player with the leading brands in both the premium and standard segments of the personal hygiene market, we look forward to cooperating closely with our business partners and creating new partnerships in each market to achieve our shared goals.

In the period ahead, we aim to accelerate our international expansion through investments in our brands, strong distribution partnerships in strategic markets, and the development of innovative products that respond to the specific needs of customers in each market, while advancing our commitment to personal hygiene and healthy, sustainable lifestyles. As the pioneer of the Turkish tissue paper market, we are confident we will achieve these goals.

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"We have the best known and best loved tissue brand with a true sense of caring about customers' well-being."

"These new investments have reinforced the quality, technology and innovative power of İpek Kağıt and brought us closer to our goal of becoming a regional power. As we extend this achievement to new markets, in line with our vision of being a powerful regional player with the leading brands in both the premium and standard segments of the personal hygiene market, we look forward to cooperating closely with our business partners and creating new partnerships in each market to achieve our shared goals."

Sertaç Nişli

Event	Date	Location	Website
Labelexpo India	November 17 – 20, 2016	Delhi NCR, India	www.labelexpo-india.com
Label Summit South China 2016	December 6 – 7, 2016	Guangzhou, China	www.labelsummit.com/southchina
ISSA/INTERCLEAN Latin America	February 22 – 24, 2017	Mexico City, Mexico	www.issainterclean.com
CIDPEX 2017	March 22 – 24, 2017	Hubei, China	www.cnhpia.org/en/shyz
Tissue World Milan	April 10 – 12, 2017	Milan, Italy	www.tissueworld.com/Milan
2017 PaperCon	April 22, 2017	Minneapolis, USA	www.tappi.org/events/event-calendar/2017-papercon
ISSA/INTERCLEAN CEE	April 26 – 28, 2017	Warsaw, Poland	www.issainterclean.com
Tissue World São Paulo	May 31 – June 2, 2017	São Paulo, Brazil	www.tissueworld.com/SaoPaulo
Labelexpo Europe 2017	September 25 – 28, 2017	Brussels, Belgium	www.labelexpo-europe.com
ISSA/INTERCLEAN ISTANBUL	October 18 – 20, 2017	Istanbul, Turkey	www.issainterclean.com
Tissue World Miami	March 21 – 23, 2018	Florida, USA	www.tissueworld.com/miami
ISSA/INTERCLEAN Amsterdam	May 15 – 18, 2018	Amsterdam, Netherlands	www.issainterclean.com/en/amsterdam
Asian Paper 2018	June 6 – 8, 2018	Bangkok, Thailand	www.bangkok.asianpapershow.com
Tissue World Istanbul	September 4 – 6, 2018	Istanbul, Turkey	www.tissueworld.com/istanbul



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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
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